

reference
guide

HP StorageWorks Command View XP Command Line Interface (CLI)

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Part Number: B9357-96091

This guide provides detailed descriptions of the Command View XP CLI commands and step-by-step instructions on how to use each command.



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Command View XP Command Line Interface (CLI) Reference Guide
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contents

About this Guide	9
Overview	10
Intended Audience	10
Prerequisites	10
Related Documentation	10
Conventions	11
Document Conventions	11
Text Symbols	11
Getting Help	13
HP Technical Support	13
HP Storage Website	13
HP Authorized Reseller	13
1 Getting Started	15
Installing the CLI	16
Requirements	16
Installation	16
Running the CLI	17
Modes of Execution	17
Logging In	18
Bypassing the Login Window	19
Command Syntax	19
Command Options	20
Output Options	20
CLI Output for Mainframe Volumes	21
-o Option to Send Output to a File	22
Sets and Ranges in Commands	22
Typical Preliminary Commands	23
Discovering Disk Arrays	23
Adding Disk Arrays to be Managed	23

Connecting to a Disk Array	24
Updating Disk Array Configuration Information	24
Disconnecting from a Disk Array	25
Ending a CLI Session.	25
Differences Between the Disk Array Family Commands	26
Ranges	26
Multiple Values	26
Port Names.	26
Add and Create Commands	26
2 CLI Commands for Common Administrative Tasks.	27
SESSION ADMINISTRATION Commands	2-28
connect	2-29
disconnect.	2-30
kill session	2-31
list session.	2-32
GENERAL Commands	2-33
execute	2-34
exit	2-35
help or ?	2-36
update	2-37
DEVICE ADMINISTRATION Commands.	2-38
add device.	2-39
add ipaddress	2-40
create device	2-41
create ipaddress.	2-42
delete device	2-43
delete ipaddress.	2-44
get_refresh_status	2-45
list array_config	2-46
list array_status.	2-49
list device	2-52
list device_history.	2-53
list ipaddress	2-54
manage	2-55
modify device	2-56
unmanage	2-58
USER ADMINISTRATION Commands	2-59
create user.	2-60

delete user	2-61
list users	2-62
modify attributes	2-63
modify password	2-64
LICENSE KEY ADMINISTRATION Commands	2-66
install license_key	2-67
list licensekey_info	2-68
uninstall license_key	2-70
3 CLI Commands for the XP128/XP1024	71
LUN MANAGEMENT Commands	3-72
create host_group	3-73
create lun	3-75
create wwn	3-78
delete host_group	3-80
delete lun	3-81
delete wwn	3-83
list lun	3-84
list port	3-87
list wwn	3-92
modify cmd_device	3-95
modify fibre_address	3-97
modify fibre_topology	3-98
modify host_group	3-99
modify host_mode	3-100
modify lun_security	3-102
modify wwn	3-103
VOLUME MANAGEMENT Commands	3-105
create custom_ldevs	3-106
create luse	3-108
delete ldevs	3-110
delete luse	3-112
initialize vdev	3-113
list ldev	3-115
list luse	3-121
list parity_group	3-123
list usable_cus	3-128
list vsc	3-129
DKC, DKU, and TRAP Commands	3-132

list acp_status or list dka_status	3-133
list chip_status or list cha_status.	3-135
list chp_status	3-137
list cm_status	3-138
list csw_status.	3-139
list dkc_status	3-140
list dkp_status	3-141
list dku_status	3-142
list drr_status.	3-143
list pg_status	3-144
list sm_status.	3-147
list traps.	3-148
4 CLI Commands for the XP48/XP256/XP512	151
LUN MANAGEMENT Commands.	4-152
add lun_to_lun_group.	4-154
add security_to_lun.	4-155
add security_to_lun_group	4-156
add wwn	4-157
add wwn_to_wwn_group	4-158
create lun.	4-159
create lun_group	4-160
create wwn_group.	4-161
delete lun.	4-162
delete lun_from_lun_group	4-163
delete lun_group	4-164
delete lun_security	4-165
delete security_from_lun	4-166
delete security_from_lun_group.	4-167
delete wwn	4-168
delete wwn_from_wwn_group.	4-169
delete wwn_group.	4-170
list cmd_device.	4-171
list count_for_volume_initialize.	4-172
list free_ldev	4-173
list lun	4-174
list lun_group	4-175
list lun_group_security	4-176
list lun_security.	4-177

list pg_freespace_info	4-178
list pg_volume_info	4-179
list port	4-180
list security_switch	4-181
list wwn	4-182
list wwn_group	4-183
modify cmd_device	4-184
modify fibre_address	4-185
modify fibre_topology	4-186
modify host_mode	4-187
modify lun_group_nickname	4-189
modify security_switch	4-190
modify wwn	4-191
modify wwn_group_nickname	4-192
modify wwn_nickname	4-193
remove wwn_group	4-194
VOLUME MANAGEMENT Commands	4-195
create custom_volumes	4-196
delete vsc_volumes	4-197
expand lun	4-198
list ldev	4-200
list ldev_size_info	4-201
list luse	4-202
list parity_group	4-203
list unused_ldev_ids	4-204
list usable_cus	4-205
volume initialize	4-206
DKC, DKU, and TRAP Commands	4-207
list acp_status or list dka_status	4-208
list chip_status or list cha_status	4-210
list chp_status	4-212
list cm_status	4-213
list csw_status	4-214
list dkc_status	4-215
list dkp_status	4-216
list dku_status	4-217
list drr_status	4-218
list pg_status	4-219

list sm_status.	4-222
list traps.	4-223
5 Batch Processing.	225
Batch File Setup	226
Batch Processing with the -f Option.	227
Restrictions of the -f Option.	227
Batch Processing Using the Execute Command.	229
Restrictions of the Execute Command.	229
Redirecting Output with the -o Option.	231
XP48, XP256, and XP512	231
XP128 and XP1024	231
Redirecting Output to be Used as Input	234
Sample Syntax	234
Commands Not Supported	238
Multiple Set Operations	239
Sequence of Operations	240
6 Error Messages.	243
Error Messages	244
Error Codes	249
Index	293
 Figures	
1 Login window	18
 Tables	
1 Document Conventions	11
2 Error messages	244
3 XP48/XP256/XP512 error codes	249
4 XP128/XP1024 error codes	262

about this guide

This reference guide provides information to help you:

- Execute batch processing to run one or more CLI commands.
- Use the CLI commands to execute session, device, SNMP IP security, and license key administration commands, and other general commands.
- Execute LUN and volume management commands to the XP disk arrays.
- List details and status about the DKC and DKU components, and SNMP traps.
- Understand and resolve error messages.

“About this Guide” topics include:

- [Overview](#), page 10
- [Conventions](#), page 11
- [Getting Help](#), page 13

Overview

This section covers the following topics:

- [Intended Audience](#)
- [Prerequisites](#)
- [Related Documentation](#)

Intended Audience

This book is intended for use by customers and HP authorized service providers who are experienced with the following:

- Disk array hardware and software
- Storage systems

Prerequisites

Before you use the Command View XP CLI, make sure you consider the items below.

- Install or upgrade to the most recent version of Command View XP.
- Set up the HP StorageWorks XP disk arrays.
- Install Path Connectivity.
- Refer to the *readme.txt* file on the CD for any last minute announcements.

Related Documentation

In addition to this guide, HP provides corresponding information:

- *HP StorageWorks Command View XP Installation Guide*
- *HP StorageWorks Command View XP Path Connectivity User Guide*
- *HP StorageWorks Command View XP Path Connectivity Command Line Interface (CLI) Reference Guide*
- *HP StorageWorks Command View XP for XP Disk Arrays User Guide*
- Command View XP and Path Connectivity online help

Conventions

Conventions consist of the following:

- [Document Conventions](#)
- [Text Symbols](#)

Document Conventions

The document conventions included in [Table 1](#) apply in most cases.

Table 1: Document Conventions

Element	Convention
Cross-reference links	Blue text: Figure 1
Key and field names, menu items, buttons, and dialog box titles	Bold
File names, application names, and text emphasis	<i>Italics</i>
User input, command and directory names, and system responses (output and messages)	Monospace font COMMAND NAMES are uppercase monospace font unless they are case sensitive
Variables	<monospace, italic font>
Website addresses	Blue, underlined sans serif font text: http://www.hp.com

Text Symbols

The following symbols may be found in the text of this guide. They have the following meanings.



WARNING: Text set off in this manner indicates that failure to follow directions in the warning could result in bodily harm or death.



Caution: Text set off in this manner indicates that failure to follow directions could result in damage to equipment or data.

Note: Text set off in this manner presents commentary, sidelights, or interesting points of information.

Getting Help

If you still have a question after reading this guide, contact an HP authorized service provider or access our website: <http://www.hp.com>.

HP Technical Support

Telephone numbers for worldwide technical support are listed on the following HP website: <http://www.hp.com/support/>. From this website, select the country of origin.

Note: For continuous quality improvement, calls may be recorded or monitored.

Be sure to have the following information available before calling:

- Technical support registration number (if applicable)
- Product serial numbers
- Product model names and numbers
- Applicable error messages
- Operating system type and revision level
- Detailed, specific questions

HP Storage Website

The HP website has the latest information on this product, as well as the latest drivers. Access storage at: <http://www.hp.com/country/us/eng/prodserv/storage.html>. From this website, select the appropriate product or solution.

HP Authorized Reseller

For the name of your nearest HP authorized reseller:

- In the United States, call 1-800-345-1518
- In Canada, call 1-800-263-5868
- Elsewhere, see the HP website for locations and telephone numbers: <http://www.hp.com>.

Getting Started

1

The Command View XP Command Line Interface (CLI) is a text-based interface used to manage and retrieve information about XP disk arrays.

Use the CLI if you prefer a text-based interface to the graphical user interface (GUI) or when it is more efficient to run scripts or batch files to manage your XP disk arrays.

Input can be in the form of single line entries or pre-written batch files. Batch files allow complex commands to be executed quickly and with no input errors. It is an efficient method for automating configuration changes and reports.

Outputs can be displayed on the screen or directed to files for later input into other applications for analysis.

Once installed, the CLI is executed from the Command View management station or a supported host. The CLI install file is contained on the Command View CD-ROM. It is also available through the Command View GUI, under the **Support** tab.

This book describes the CLI commands used to manage the XP disk array family, which includes the XP48, XP128, XP256, XP512, and XP1024. Many commands can be used with all XP disk array models, but some commands apply only to particular models.

Each command is described using the following format:

- Command name and brief description
- Syntax needed to enable the command
- Arguments needed (if any) to further specify the command
- Example(s) to illustrate the command usage

Installing the CLI

Requirements

The CLI can run on the Command View management station or on a host. The requirements are:

- The same version of Command View must be installed on the Command View management station.
- Be sure that JRE 1.4.2 (Windows) or JRE/RTE 1.4.1.03 (HP-UX) is installed on the client platform (the system from which you run the CLI). Other operating systems or JRE versions are not supported.
- The host must have network connectivity to the Command View management station.

Installation

To download and install the Command View CLI client:

1. Download the *cvcli.tar* file by navigating to the Command View **Support** tab. Click **Support > Download Page > Command View Command Line Interface (CV CLI) Download Section > CV CLI Client**.
2. Un-tar the file *cvcli.tar* to any location you want. For a Windows host, use WinZip 7.0 or later. For a UNIX host, use the command `tar xvf cvcli.tar`.
3. After you un-tar the file, the CLI components will be in `<your_path>/cvcli`. It doesn't matter where you un-tar the files, but all of the following files must be in the same directory:
 - *cli.jar*: CLI java classes.
 - *CVCLI.bat*: CLI execution Windows batch file.
 - *cvcli*: CLI execution UNIX script.
 - *CVCLI.properties*: CLI properties file.
 - *CVCLI.txt*: Installation instructions for the CLI client.
4. To complete the installation, follow the instructions found in the *CVCLI.txt* file.

Running the CLI

Modes of Execution

There are two modes of CLI execution: interactive mode and batch mode.

Interactive Mode

Use interactive mode (the default mode) to enter one command at a time. In this mode, the CLI provides a command prompt. You enter commands one at a time until you end the session by typing `exit`.

For Windows hosts:

Go to `<your_path>\cvcli` and run `cvcli.bat` by entering `cvcli`.

You will be taken to a login window and prompted for a user name and password.

For UNIX hosts:

Go to `<your_path>/cvcli` and run `cvcli`.

You will be taken to a login window and prompted for a user name and password. For AIX and HP-UX 10.20 hosts, bypass the login window by entering `cvcli -p <user>/<password>`.

Batch Mode

Use batch mode to execute a batch file containing multiple CLI commands. This is useful for submitting a large number of commands. The session ends after the commands in the batch file have been executed.

Commands in a batch file are not executed in the order they are listed in the file. Instead, similar commands are grouped together and executed together to increase speed and efficiency. For more information about batch mode, see [Batch Processing](#) on page 225.

For Windows hosts:

Go to `<your_path>\cvcli` and enter `cvcli -f <filename>`

where `<filename>` is the name of an input file containing Command View CLI commands.

You will be taken to a login window and prompted for a user name and password.

For UNIX hosts:

Go to `<your_path>/cvcli` and enter `cvcli -f <filename>`
where `<filename>` is the name of an input file containing Command View CLI commands.

You will be taken to a login window and prompted for a user name and password. For AIX and HP-UX 10.20 hosts, bypass the login window by entering:

```
cvcli -p <user>/<password> -f <filename>
```

Logging In

By default, when you run the CLI program, a login window like the one shown in [Figure 1](#) is displayed.



Figure 1: Login window

To log in, enter your user name and password and click **OK**.

Log in using a valid Command View user name and password. The Command View defaults are administrator/administrator for modify privileges, and user/user for view-only privileges.

To run the CLI from a telnet session using a command prompt window, use a command prompt window that supports the X Windows function, such as Reflection X, or use the command line login method that bypasses the login window. A command prompt window that does not support the X Windows function will not display the graphical login window.

Bypassing the Login Window

You can include login information in the `cvcli` startup command by using the `-p` option, in which case the login window is not displayed. This is useful for processing commands from a batch file, as execution will not be halted by the login window. CLI program startup will fail if the login information is not correct.

For interactive mode, enter:

```
cvcli -p <user/password>
```

For batch mode, enter:

```
cvcli -p <user/password> -f <filename>
```

Command Syntax

The general syntax of CLI commands is:

```
command [<module name>] [<arguments>]
```

command

One of the commands in the CLI.

<module name>

The object of the command, such as `lun`, `lun_group`, `wwn`, and so forth.

<arguments>

The variables for the command and module, such as *<portname>*, *<scsi_id>*, *<lun_id>*, *<cu_id>*, and *<ldev_id>*.

Configuration elements are separated by commas (,).

Example: This example creates a new LUN.

```
create lun 1A, 0F, 1, 0, 1
```

In this example, `create` is the command, `lun` is the module, and `1A`, `0F`, `1`, `0`, and `1` are the arguments.

Commands and options are not **case-sensitive** or **space-sensitive**. Enter arguments in any order as long as all required parameters are provided. Arguments between “[]” are optional and arguments with “...” accept multiple values.

Command Options

-f <filename>

Get the commands from a batch file (used with the `cvcli` command when starting the CLI and with the `execute` command in an interactive session). Specify a path and filename.

-p <user>/<password>

Bypass the login screen (used only when starting the CLI).

-o <filename>

Send the results to a file instead of displaying them on the screen. Specify a path and filename.

Output Options

All CLI commands support the following output options:

| more or /p

List the output one page at a time.

-csv

List the output as comma separated values. The default output format is space separated.

-l

Long listing (more detailed output).

-col <columns...>

List specified columns only. Only the items in the specified columns are displayed.

-sa <columns>

Sort the output on the specified column in ascending order.

-sd <columns>

Sort the output on the specified column in descending order.

CLI Output for Mainframe Volumes

With the XP128/XP1024, mainframe volumes can be managed using the Command View GUI when the mainframe feature license keys are installed. The Command View CLI does not support the display or management of mainframe information. When mainframe feature licenses are installed, the output for the following commands listed will contain a message indicating that information for mainframe and intermediate volumes is not displayed.

- `list port`
- `list ldev`
- `list lun`
- `list vsc`
- `list parity_group`
- `list luse`
- `list pg_status`

Example Output

```
list lun
```

Information about mainframe and intermediate volumes are not shown. To manage those volumes, please access the mainframe management applications using the CV-XP web GUI

PortName	HostGroupNickName	LunID	CU	LDEV
CL1-A	GrpNick1	0	0	00
CL1-B	GrpNick1	1	0	02
CL1-A	GrpNick4	1	0	0A
CL1-E	GrpNick1	0	0	00
CL1-a	GrpNick1	0	0	00

Example Output with -l Option

```
list ldev -l
```

Information about mainframe and intermediate volumes are not shown. To manage those volumes, please access the mainframe management applications using the CV-XP web GUI

CU	LDEV	Emulation	ExpansionStatus	Count	Raid	Paths	Capacity
Reserve		DeviceType	CmdDevSecurity				
0	00	OPEN-E	EXPANDED_TOP	3	RAID1	2	2347
Normal		Lun	OFF				

-o Option to Send Output to a File

The `-o <filename>` option stores the results of any command execution in a file instead of displaying the lines on the screen.

You can use this option to save output for later analysis. The output format is comma delimited (also known as CSV). You can import files in this format into Microsoft Excel and other programs.

When you use this option, the new file created will overwrite any existing file with the same path and name.

Sets and Ranges in Commands

In many commands, you can specify arguments such as `<portname>` as a single item, a set, or a range.

Sets and ranges may be used for parity groups, LDEVs, LUN IDs, CU numbers, etc. Each command that accepts sets or ranges describes the specific format for entry. The general rules are described below.

Sets

Sets are lists of non-consecutive elements. Elements of sets are separated by a colon (:). For example, ports CL1-A, CL1-C, and CL1-E would be expressed as 1A:1C:1E. Port names must be specified in truncated form (for example, 1A and not CL1-A) because the hyphen (-) is reserved for specifying range values.

Sets may be used in several XP128/XP1024 commands.

Ranges

A range specifies consecutive elements. Ranges are indicated by dashes. For example, the range of ports from CL1-A to CL1-E is expressed as 1A-1E.

For XP128/XP1024 commands, port names must be specified in truncated form (for example, 1A and not CL1-A) because the hyphen (-) is used to specify the range.

Typical Preliminary Commands

Once you are logged in, you will need to execute some preliminary commands to discover, add, and connect to the disk arrays you want to manage. You will need to:

- See which disk arrays are available to manage (`list device` command).
- Add disk arrays to the list of disk arrays that Command View manages (`add device` or `create device` command).
- Connect to a disk array before issuing disk array management commands (`connect` command).
- Retrieve current information by issuing the `update` command.
- Enter `add`, `create`, `list`, `modify`, or `delete` commands as needed.
- Disconnect from a disk array (`disconnect` command).
- End the CLI session (`exit` command).

Users with `modify` privileges can perform changes to disk array configurations. Users with `view` privileges can perform only view-only CLI operations.

Only the user “administrator” can change Command View administrative settings, such as adding new disk arrays. The administrator is also a `modify` user for disk array management operations.

When users with `modify` privileges issue the `connect` command, Command View tries to acquire exclusive access to the disk array (lock the disk array). Locking prevents other users from making any configuration changes to the disk array. If the lock can’t be obtained, the `connect` command will fail. Users with `view` permission can connect to a disk array at any time, regardless of the lock state.

Discovering Disk Arrays

Once you are logged in, use the `list device` command to determine which disk arrays are available to be managed:

```
list device
```

Adding Disk Arrays to be Managed

To add disk arrays from the CLI, you can use the `create device` command for the XP128/XP1024 or the `add device` command for the XP48/XP256/XP512.

```
create device <ipaddress...>
[,<array_serial_number...>] [-manage | -unmanage]
add device <array_serial_number>, <ip_address>,
<location>, <contact_info>, manage | unmanage
[-ftp | -noftp]
```

The IP address is the public IP address of the disk array, except for the XP256, which uses the IP address of the Remote Control remote console.

You can also go to the Device Administration screen in Command View to add a disk array.

Connecting to a Disk Array

To select a disk array to manage, execute the `connect` command. You can manage any disk array listed by the `list device` command.

```
connect <array_serial_number>
```

`<array_serial_number>` is the disk array's serial number. If a connection can't be made, an error message is displayed.

Updating Disk Array Configuration Information

In some cases, following a successful `connect` command, Command View may need to update its configuration data for the disk array by obtaining it from the disk array. This is also known as data retrieval.

The `update` command copies information from the disk array to a database on the Command View management station. The update process will also occur following execution of commands that change the disk array configuration.

You cannot issue configuration modification commands while an update is in progress. The CLI will reject commands and report `update data retrieval in progress`. You can use `list` commands to see the previous configuration data, but bear in mind that information may change once the data retrieval process completes.

You can issue administrative commands during the data retrieval process. This includes the `list array_status` command to display the status of the disk array. The command can be used to determine when the data retrieval has completed.

```
list array_status
```


Disconnecting from a Disk Array

When you are finished managing a disk array, issue the `disconnect` command:

```
disconnect
```

Ending a CLI Session

To end the CLI session and terminate the CLI program, use the `exit` command.

```
exit
```

Differences Between the Disk Array Family Commands

Ranges

Range arguments for the XP48/XP256/XP512 require square brackets around the values (for example, [CL0-A-CL0-D]). Range arguments for the XP128/XP1024 should be specified without square brackets (for example, 0A-0D).

Multiple Values

For the XP48/XP256/XP512, when specifying multiple values, both ranges (for example, [CL1-A-CL1-D]) and sets of values (for example, 0A,0B) are supported. Individual values are separated by “,” and a range by square brackets and “-”.

For the XP128/XP1024, multiple values can be specified as a range (for example, 1A-1D) or a set of values (for example, 0A:0D). Individual values are separated by “:” and a range by “-”.

Port Names

For the XP48/XP256/XP512, ports are specified as CL1-A or CL2-A, etc. (for example, the range [CL1-A-CL1-D]).

For the XP128/XP1024, you specify ports as 1A, 2A, etc. (for example, 1A-1D).

Add and Create Commands

For the XP48/XP256/XP512, both `add` and `create` commands are supported.

For the XP128/XP1024, all `add` commands are replaced by `create` commands.

CLI Commands for Common Administrative Tasks

2

This chapter contains the CLI commands for session, device, SNMP IP security, and license key administration. This chapter also contains general CLI commands, such as `execute` and `update`.

Most of the commands described in this chapter are supported for all XP disk arrays. However, some commands are customized for a particular XP disk array. In a few cases, there are commands available for the XP128/XP1024 that are not available for the XP48/XP256/XP512, and vice versa. Each command description clearly specifies when a command is not supported for a certain XP disk array.

SESSION ADMINISTRATION Commands

Use the session administration commands to connect and disconnect sessions, and to display information about a session.

This section describes the following commands:

- [connect](#) (page 29)
- [disconnect](#) (page 30)
- [kill session](#) (page 31)
- [list session](#) (page 32)

connect

This command establishes a session to manage a specified disk array. This has to be done before doing any disk array-related operations.

If the CLI is started with the `-f` option and the `connect` command is in the batch file, this command will keep trying to connect until it establishes a session or until it times out, whichever is earlier. If you execute this command from the CLI prompt, you can see immediately if the connection is successful.

You can access only one disk array at a time through a CLI session. If want to access another disk array, you must first disconnect from the current disk array and connect to the next one.

Syntax

```
connect [-r] <array_serial_number>
```

Arguments

`[-r]`

Connects the user in read-only mode if the user has modify privilege.

`<array_serial_number>`

The serial number of the disk array to which you want to connect.

Example

```
connect 30433
connect -r 30433
```

disconnect

This command disconnects you from the disk array to which you are currently connected.

Syntax

```
disconnect
```

Example

```
disconnect
```

kill session

Use this command to terminate the specified client session.

Syntax

```
kill session <sessionId>
```

Arguments

<sessionId>

The ID of the client session to be terminated. <sessionId> can be only one value.

Example

```
kill session cb689ggmgy
```

list session

Use this command to list the client sessions for the specified disk array.

Syntax

```
list session <array_serial_number>
```

Arguments

<array_serial_number>

The serial number of the disk array whose sessions you want to list.

Example

```
list session 30433
```

GENERAL Commands

This section describes the following commands:

- [execute](#) (page 34)
- [exit](#) (page 35)
- [help or ?](#) (page 36)
- [update](#) (page 37)

execute

This command executes commands from a batch file when you are in an interactive session (that is, the CLI was started without the `-f <filename>` option). You are then returned to the CLI prompt.

The file can contain any CLI command except `execute` or `help`. Each line in the file must contain only one command.

Syntax

```
execute <filename>
```

Arguments

<filename>

The file containing the commands to be executed. It can be specified with an absolute or relative path. If you specify a relative path, then the search for the file will be relative to the directory where the CLI was started. Only one file can be specified.

Example

```
execute d:\hpss\CommandView\30044Cmd.txt
execute 30044Cmd.txt
execute ..\30044Cmd.txt
execute .\30044Cmd.txt
```

exit

This command exits you from an interactive CLI session.

Syntax

```
exit
```

help or ?

Either of these commands displays the syntax and description of the commands and their modules.

Syntax

```
help [<command>] [<module_name>]
```

or

```
? [<command>] [<module_name>]
```

Arguments

[<command>]

<command> is optional. If this option is not specified, the syntax of the help command is displayed. The command types are `list`, `create`, `modify` and `delete`. If only the command type is specified, the usage of all the modules under the specified command will be displayed. For example, `help list` will display the usage for all the `list` commands. Only one command can be specified.

[<module_name>]

<module_name> is optional. If the module name is given, the full syntax of the command and its arguments are displayed. Otherwise the general syntax of the command is displayed.

Example

```
help
help list
help list ldev
?
? list
? list ldev
```

update

The `update` command forces a new data retrieval cycle and is usually required when the server encounters network errors or the existing data with the server is not the most current. Use this command only after connecting to an array.

Syntax

```
update
```

DEVICE ADMINISTRATION Commands

Use the device administration commands to create, manage, and delete the disk arrays; manage SNMP IP security; and list status and detailed information.

This section describes the following commands:

- [add device](#) (page 39)
- [add ipaddress](#) (page 40)
- [create device](#) (page 41)
- [create ipaddress](#) (page 42)
- [delete device](#) (page 43)
- [delete ipaddress](#) (page 44)
- [get_refresh_status](#) (page 45)
- [list array_config](#) (page 46)
- [list array_status](#) (page 49)
- [list device](#) (page 52)
- [list device_history](#) (page 53)
- [list ipaddress](#) (page 54)
- [manage](#) (page 55)
- [modify device](#) (page 56)
- [unmanage](#) (page 58)

add device

This command adds a disk array for Command View to manage.

This command is generally used for the XP48/XP256/XP512, but it is also supported for the XP128/XP1024. Also refer to the `create device` command on page 41.

Syntax

```
add device <array_serial_number>, <ip_address>,  
<location>, <contact_info>, manage | unmanage  
[-ftp | -noftp]
```

Arguments

<array_serial_number>

The serial number of the disk array.

<ip_address>

For the XP48/XP512, use the public IP address of the disk array. For the XP256, use the public IP address for the remote console PC.

<location>

A description of the disk array's location.

<contact_info>

The person to contact when there are problems with the disk array.

manage | unmanage

Specifies whether to add the disk array in managed or unmanaged mode.

[-ftp | -noftp]

Specifies the data retrieval method. By default, FTP is enabled for the XP48/XP512.

This option is not supported for the XP256 or the XP128/XP1024.

Example

```
add device 30433, 15.76.97.185, ISOB, ISO, manage
```

add ipaddress

This command adds an SNMP manager's IP address to the list in the disk array. Use this command after connecting to a disk array.

This command is not supported for the XP256 or XP128/XP1024. Refer to the `create ipaddress` command on page 42.

Syntax

```
add ipaddress <ipaddress...>
```

Arguments

<ipaddress>

The IP address of the SNMP manager to be added. There must be at least one IP address specified.

Example

```
add ipaddress 15.76.96.152,15.32.72.60
```

create device

This command adds disk array entries to the Command View device database. You need to create a disk array entry before you can manage a disk array.

This command is generally used for the XP128/XP1024, but it is also supported for the XP48/XP256/XP512. Also refer to the `add device` command on page 39.

Syntax

```
create device <ipaddress> [,<array_serial_number>]  
[-manage | -unmanage]
```

Arguments

<ipaddress>

The IP address of the machine where the disk array's SNMP agent is running. *<ipaddress>* can only be one value. Multiple values are not supported.

[*<array_serial_number>*]

The serial number of the disk array to be added to the Command View server. *<array_serial_number>* can only be one value. Multiple values are not supported.

[-manage | -unmanage]

Specifies whether to add the disk array in managed or unmanaged mode.

Example

This adds the device at the specified IP address to Command View:

```
create device 15.76.97.185
```

This adds disk array 30433, which should be specified with the IP address, to Command View:

```
create device 15.76.97.185,30433
```

This adds a disk array in managed mode:

```
create device 15.76.97.185 -manage
```

create ipaddress

This command registers SNMP Manager IP addresses in the disk array. Use this command after connecting to a disk array.

This command is not supported for the XP48/XP256/XP512. Refer to the add ipaddress command on page 40.

Syntax

```
create ipaddress <ipaddress...>
```

Arguments

<ipaddress...>

The IP address of the SNMP manager to be added. *<ipaddress>* can be one IP address or a set of IP addresses.

Example

```
create ipaddress 15.32.72.60
create ipaddress 15.32.72.60:15.32.72.61:15.32.72.62
```

delete device

This command removes a disk array from the list of disk arrays managed by Command View.

You cannot manage a disk array once it has been deleted. The disk array must be in the unmanaged state for the delete operation to succeed. Use the `unmanage` command to put the disk array in the unmanaged state first.

Syntax

```
delete device <array_serial_number>
```

Arguments

<array_serial_number>

The serial number of the disk array to be removed.

Example

```
delete device 30433
```

delete ipaddress

This command unregisters SNMP Manager IP addresses from the disk array. The IP address of the Command View management station cannot be deleted unless all the other registered SNMP Manager IP addresses are deleted. Use this command after connecting to a disk array.

This command is not supported for the XP256.

Syntax

```
delete ipaddress <ipaddress...>
```

Arguments

<ipaddress...>

The IP address of the SNMP manager to be deleted. *<ipaddress>* can be one IP address or a set of IP addresses. There must be at least one IP address specified.

Example

```
delete ipaddress 15.32.72.60  
delete ipaddress 15.32.72.60:15.32.72.61:15.32.72.62
```

get_refresh_status

This command shows the lock and refresh status of the disk array.

This command will not work while connected to an XP128/XP1024. Instead, use the `list array_status` command (see page 49).

Syntax

```
get_refresh_status <array_serial_number>
```

Arguments

<array_serial_number>

The disk array serial number.

Example

```
get_refresh_status 10049
```

```
LOCK_STATUS: CV unlocked the array 10049.REFRESH_STATUS: CV  
server has latest data.
```

list array_config

This command displays disk array configuration details as displayed on the Status screen of Command View. Some of the configuration details include the firmware version, allocated space, unallocated space, free space, total space, LDEVs per CU, and LDEVs per ACP. This command does not support the `-sa`, `-sd`, or `-col` options.

For the XP128/XP1024, view the port and CHA configurations by using the `list port` and `list cha` commands.

Syntax

XP48/XP256/XP512 syntax:

```
list array_config
```

XP128/XP1024 syntax:

```
list array_config [-firmware] [-allocatedspace]
[-freespace] [-totalspace] [-ldevspercu]
[-ldevsperacp]
```

Arguments

The following arguments are not supported for the XP48/XP256/XP512.

`[-firmware]`

Displays the firmware version of the disk array.

`[-allocatedspace]`

Displays the allocated space in the disk array.

`[-freespace]`

Displays the free space in the disk array.

`[-totalspace]`

Displays the total capacity of the disk array.

`[-ldevspercu]`

Displays the number of LDEVs per CPU.

[-ldevsperacp]

Displays the number of LDEVs per ACP pair.

Example

The following is an example output of the `list array_config` command.

```
Firmware revision,          52-46-11
Array configuration and status
Allocated space,           290 Gbytes
Unallocated space,         190 Gbytes
Free space,                268 Gbytes
Total Capacity,            558 Gbytes
Number of LDEVs per CU
CU 0, 215
CU 1, 0
CU 2, 0
CU 3, 0
Number of LDEVs per ACP pair
ACP Pair 1, 115
ACP Pair 2, 100
ACP Pair 3, 0
ACP Pair 4, 0
```

[-firmware]

```
Firmware revision,          52-46-11
```

[-allocatedspace]

```
Allocated space,           290 Gbytes
```

[-freespace]

```
Free space,                268 Gbytes
```

[-totalspace]

```
Total Capacity,            558 Gbytes
```

[-ldevspercu]

Number of LDEVs per CU

CU 0, 215

CU 1, 0

CU 2, 0

CU 3, 0

[-ldevsperacp]

Number of LDEVs per ACP pair

ACP Pair 1, 115

ACP Pair 2, 100

ACP Pair 3, 0

ACP Pair 4, 0

list array_status

This command displays the lock, refresh, and get state and status of all managed disk arrays or a specific XP128/XP1024 disk array.

The lock states include:

- **LOCKED:** Command View has locked the disk array.
- **UNLOCKED:** The disk array is not locked by the Command View.
- **ATTEMPTING:** Command View is attempting to lock the disk array.
- **ERROR:** Error while attempting to lock the disk array.

The refresh states include:

- **REFRESHING:** The disk array is refreshing for the first time and is transferring the latest configuration data.
- **REFRESHED:** The disk array is in the refreshed state.
- **ERROR:** Error while trying to refresh.
- **IDLE:** The disk array is not on a refresh cycle.
- **SET OPERATION IN PROGRESS:** Some set operations are in progress and the user will not be able to complete any other set operations during this time.

The get states include:

- **COMPLETE:** Command View is done retrieving data.
- **FIRST:** The Command View server is retrieving data from the disk array. There is no cached data available for the disk array.
- **CACHED_DATA:** Data is available in Command View, but it is from the local cache.
- **OLD_DATA:** Data from the disk array is not the latest.
- **ERROR:** The server has found an error condition while retrieving data.
- **ERROR_NO_DATA:** The server has found an error condition while retrieving data, and there is no data available in the local cache.

Syntax

XP48/XP256/XP512 syntax:

```
list array_status
```

XP128/XP1024 syntax:

```
list array_status <array_serial_number...> [-lock]
[-refresh] [-get]
```

Arguments

The following arguments are not supported for the XP48/XP256/XP512.

<array_serial_number>

The serial number of the disk array whose status is to be displayed. Can be one value or a set of values (for example, 30433 or 30433:35721).

[-lock]

Used to display the lock state only.

[-refresh]

Used to display the refresh state only.

[-get]

Used to display the get state only.

Example**XP48/XP256/XP512 example:**

```
Serial# ,LockStatus ,Lock State,Refresh Status,Refresh
State,Get Status ,Get State
30055,OK,UNLOCKED,OK,REFRESHED,OK,OLD_DATA
```

XP128/XP1024 example:

```
Serial# Lock_State Lock_Status Refresh_State Refresh_Status
Get_State Get_Status
10033 UNLOCKED OK IDLE OK
COMPLETE OK
20074 LOCKED OK IDLE OK
OLD_DATA OK
```

[-lock]

```
Serial# Lock_State
30433 UNLOCKED
35721 LOCKED
```

[-refresh]

Serial#	Refresh_State
30433	REFRESHED
35721	ERROR

[-get]

Serial#	Get_State
10033	COMPLETE
20074	OLD_DATA

list device

This command lists the disk arrays managed by Command View along with their attribute types and contact information. A disk array can be managed only if the disk array has been added to Command View's database.

Syntax

```
list device
```

Example

The output displays the details of the disk arrays that are managed by Command View.

```
Serial#,IPAddress,Type,Contact,Location,Manage,Ftp,Protocol
20036,15.76.117.261,XP 128,ISO,ISO,manage,noftp,rmi
30055,15.32.76.135,XP 512,R5L,SNM,manage,noftp,snmp
30433,15.76.116.101,XP 512,ss,ss,manage,noftp,snmp
35721,15.76.116.183,XP 256,ss,dev,manage,noftp,snmp
```

list device_history

This command displays the device history of the specified disk array.

Syntax

Before connecting to the disk array:

```
list device_history <array_serial_number>
```

```
CV_CLI>list device_history 20036
```

After connecting to the disk array:

```
list device_history
```

```
CV_CLI 20036(R/W)>list device_history
```

Arguments

<array_serial_number>

The serial number of the disk array whose device history you want to display.

Example

```
CV_CLI 20036 (R/W)>list device_history           Sending Request
to CV server...                                20036: The server has
latestdata
TimeStamp: Thu 27 14:42:48 PST 2002              Message
: Device: 20036 loaded from database

TimeStamp: Thu 27 14:43:41 PST 2002              Message
: Get State reached GET_STATE_COMPLETE

TimeStamp: Thu 27 14:44:00 PST 2002              Message
: Lock State reached LOCK_STATE_ATTEMPTING

TimeStamp: Thu 27 14:44:00 PST 2002              Message
: Another manager at NT16135 has locked the array

TimeStamp: Thu 27 14:45:00 PST 2002              Message
: Lock State reached LOCK_STATE_LOCKED

TimeStamp: Thu 27 14:42:00 PST 2002              Message
: Get State reached GET_STATE_OLD_DATA

TimeStamp: Thu 27 14:45:06 PST 2002              Message
: Get State reached GET_STATE_COMPLETE
```

list ipaddress

This command lists the IP addresses of the SNMP Managers registered with the connected disk array. The host IP address is displayed with the caption “CV IP Address.”

This command is not supported for the XP256.

Syntax

```
list ipaddress
```

Example

```
SNMP Manager IP Addresses
15.32.72.62
15.76.97.136 (CV IP Address)
```

manage

Use this command to enable Command View to manage a disk array. A disk array can be managed through Command View only if it has been first been added to the Command View database. Use this command before connecting to a disk array.

Syntax

```
manage <array_serial_number>
```

Arguments

<array_serial_number>

The serial number of the disk array to be managed.

Example

```
manage 30433
```

modify device

This command modifies the disk array's contact and location details. More than one disk array's details can be modified in one operation.

Syntax

XP48/XP256/XP512 syntax:

```
modify device <array_serial_number>, <ip_address>,  
<location>, <contact_info>
```

XP128/XP1024 syntax:

```
modify device <array_serial_number>  
[-location <location>] [-contact <contact>]
```

Arguments

<array_serial_number>

The serial number of the disk array. *<array_serial_number>* can only be one value. Multiple values are not supported.

<ip_address>

This argument is necessary for the XP48/XP256/XP512 only. For the XP48/XP512, use the public IP address of the disk array. For the XP256, use the public IP address for the remote console PC.

<location> or [-location *<location>*]

The disk array's location. *<location>* can only be one value. Multiple values are not supported.

For the XP128/XP1024, the location, contact, or both can be specified, but at least one of the options must be specified.

<contact_info> or [-contact *<contact>*]

The disk array's contact details, such as the person to contact when there are problems with the disk array. *<contact>* can only be one value. Multiple values are not supported.

For the XP128/XP1024, the location, contact, or both can be specified, but at least one of the options must be specified.

Example

XP48/XP256/XP512 example:

```
modify device 30433, 15.76.97.185, ISOB, ISO
```

XP128/XP1024 example:

```
modify device 30433 -contact ISOB -location ISO
```

```
modify device 30433 -contact ISOB
```

```
modify device 30433 -location ISO
```

unmanage

Use this command to disable management of a disk array by Command View. A device can be unmanaged only if it is currently managed. Use this command before connecting to a disk array.

Syntax

```
unmanage <array_serial_number>
```

Arguments

<array_serial_number>

The serial number of the disk array to be unmanaged.

Example

```
unmanage 30433
```

USER ADMINISTRATION Commands

Use the user administration commands to manage user accounts, change user passwords, and modify user account attributes.

This section describes the following commands:

- [create user](#) (page 60)
- [delete user](#) (page 61)
- [list users](#) (page 62)
- [modify attributes](#) (page 63)
- [modify password](#) (page 64)

create user

Use this command to create a new user account. Only administrators can create user accounts. This command is not supported after connecting to a disk array, within a batch file, or with the `-f` option. In addition, ranges are not supported.

When you create a user account, the user name must have at least six characters, and cannot have more than 16 characters. Passwords must have at least six characters, and cannot have more than ten characters. Also, the user name or password cannot contain any special characters, colons, semicolons, or spaces.

Syntax

```
create user <username>, <password>, <confirm_password>
```

Arguments

<username>

The name of the user.

<password>

The user's password.

<confirm_password>

The user's password again for verification purposes.

Example

```
create user natasha,123abc,123abc
```

delete user

Use this command to delete a user account. Only administrators can delete user accounts. This command is not supported after connecting to a disk array, within a batch file, or with the `-f` option. In addition, ranges are not supported.

Syntax

```
delete user <username>
```

Arguments

<username>

The name of the user whose account is to be deleted.

Example

```
delete user natasha
```

list users

Use this command to list all the users and their account attributes. This command is not supported after connecting to a disk array, within a batch file, or with the `-f` option. In addition, ranges are not supported.

Syntax

```
list users [-username <username...>] [-a]
```

Arguments

`[-username <username...>]`

Used to display specific users.

`[-a]`

Displays the view/modify attributes for Command View product features.

Example

`list users` without any options displays all the users.

```
list users
UserName
administrator
user
vinitha
natasha
```

`list users` with the `-username` option displays those specific users if their account exists.

```
list users -username natasha,greg
UserName
natasha
```

`list users` with the `-a` option displays the following:

```
UserName Autolun BC CA CacheLUN DBE Lunm UserAdmin Mainframe
administrator Modify Modify Modify Modify Modify Modify Modify
Modify
user View View View View View View View View View View
vinitha Modify View View Modify View Modify View View
natasha View Modify Modify View Modify View View Modify
```

modify attributes

Use this command to set user account attributes. An attribute is a Command View product feature, such as Auto LUN or BC. Only administrators can modify attributes. This command is not supported after connecting to a disk array, within a batch file, or with the `-f` option. In addition, ranges are not supported.

Syntax

```
modify attributes <username>  
-attribute_name <view/modify>...
```

Arguments

<username>

The name of the user whose attributes are to be changed.

`-attribute_name <view/modify>...`

`-attribute_name` can be any of the following product features: AutoLUN, BC, CA, CacheLUN, DBE, Lunm, or MainFrame. Set the attributes to either view or modify.

Example

```
modify attributes natasha -AutoLUN view  
modify attributes natasha -AutoLUN view -Lunm modify
```

modify password

Use this command to change a user's password. This command is not supported after connecting to a disk array, within a batch file, or with the `-f` option. In addition, ranges are not supported.

Users can change their own passwords. Only administrators can modify other users' passwords. In addition, administrators are not required to enter the old password when changing the password.

Passwords must have at least six characters, and cannot have more than ten characters. Also, the password cannot contain any special characters, colons, semicolons, or spaces.

Syntax

Administrator syntax:

```
modify password <username>, <new_password>,  
<confirm_password>
```

Administrator syntax to modify the administrator's password:

```
modify password <username>, <old_password>,  
<new_password>, <confirm_password>
```

User syntax:

```
modify password <username>, <old_password>,  
<new_password>, <confirm_password>
```

Arguments

`<username>`

The name of the user.

`<old_password>`

The user's old password. This is required for users to change their own password, but not necessary for administrators.

`<new_password>`

The user's new password. The new password cannot be the same as the old password.

`<confirm_password>`

The user's new password again for verification purposes.

Example

Administrator example:

```
modify password natasha,456xyz,456xyz
```

User example:

```
modify password natasha,123abc,456xyz,456xyz
```

LICENSE KEY ADMINISTRATION Commands

Use the license key administration commands to display information about the license keys installed on an XP disk array. For the XP128/XP1024, additional commands are available to install and uninstall license keys on the disk array.

This section describes the following commands:

- [install license_key](#) (page 67)
- [list licensekey_info](#) (page 68)
- [uninstall license_key](#) (page 70)

install license_key

Use this command to install license keys for optional software. You can install more than one license key in one operation.

This command is not supported for the XP48/XP256/XP512.

HP Continuous Access XP must be installed before HP Continuous Access XP Extension is installed. The two items should be specified as separate commands.

Example:

```
install license_key HP_CONTINUOUS_ACCESS_XP,  
NJGTL6XX8HFS AIMN00GJ  
  
install license_key HP_CONTINUOUS_ACCESS_EXTENSION,  
NJGTL6XX8HFS AIMN00GG
```

Syntax

```
install license_key <productname...>, <keycode...>
```

Arguments

<productname...>

The name of the application to be installed. *<productname>* can be one application or a set of applications (for example, HP_CACHE_LUN:HP_AUTOLUN_XP). The number of applications specified must be equal to the number of key codes specified.

<keycode...>

The license key for the specified application. *<keycode>* can be one key or a set of keys. The number of key codes specified must be equal to the number of applications specified.

Example

```
install license_key HP_CACHE_LUN, NJGTL6XX8HFS AIMN00GJ  
  
install license_key HP_CACHE_LUN:HP_AUTOLUN_XP,  
NJGTL6XX8HFS AIMN00GJ :BJGDXX24DFR4G6H0XGFT
```

list licensekey_info

This command lists information about the license keys installed on the disk array.

This command is not supported for the XP256.

`list licensekey_info` has the following information associated with it:

- **FunctionalityOption.** Displays the list of software and options for which licenses are installed or can be installed.
- **Status.** The installation status of the various software modules. The possible values are “Installed” and “Not Installed.”
- **KeyKind.** The type of the key installed for the software. The keys installed can be Temporary, Emergency, or Permanent. If a key is not installed for an application, the value displayed will be “--”.
- **DaysLeft.** The number of days left before the license key expires. This value is valid only for Temporary and Emergency keys. For software installed with Permanent Key, the value displayed will be “--”.
- **Capacity(TB).** Displays the capacity of the license in terabytes (TB). This is valid only for Permanent keys. If the license is for 65535 TB or for full capacity, the value displayed will be “See License Certificate.”

Syntax

```
list licensekey_info [-productname <productname>]
```

Arguments

```
[-productname <productname>]
```

Displays the license key details for only the products specified.

Example

FunctionalityOption	Status
HP_CONTINUOUS_ACCESS_XP	Installed
HP_CONTINUOUS_ACCESS_XP_EXTENSION	Installed
HP_BUSINESS_COPY_XP	Installed
HP_CACHE_LUN	Installed
HP_AUTOLUN_XP	Installed
HP_APPLICATION_POLICY_MANAGER	Installed
HP_LUN_CONFIG_AND_SECMGR_XP_VOLUME_MGR	Installed
HP_LUN_CONFIG_AND_SECMGR_XP_LUN_MGR	Installed

-l Option

`list licensekey_info -l` displays expanded information about the license keys. This option is not supported for the XP48/XP512.

FunctionalityOption	KeyKind	DaysLeft	Capacity(TB)	Status
HP_CONTINUOUS_ACCESS_XP	Permanent	--	See License Certificate	Installed
HP_CONTINUOUS_ACCESS_XP_EXTENSION	Permanent	--	See License Certificate	Installed
HP_BUSINESS_COPY_XP	Permanent	24	See License Certificate	Installed
HP_CACHE_LUN	Permanent	--	See License Certificate	Installed
HP_AUTOLUN_XP	Permanent	--	See License Certificate	Installed
HP_APPLICATION_POLICY_MANAGER	Permanent	--	See License Certificate	Installed
HP_LUN_CONFIG_AND_SECMGR_XP_VOLUME_MGR	Permanent	--	See License Certificate	Installed
HP_LUN_CONFIG_AND_SECMGR_XP_LUN_MGR	--	--	--	Not Installed

uninstall license_key

Use this command to uninstall license keys for applications. More than one license can be uninstalled in one operation.

This command is not supported for the XP48/XP256/XP512.

HP Continuous Access Extension must be uninstalled before HP Continuous Access is uninstalled. The two names should be specified as separate commands.

Example:

```
uninstall license_key HP_CONTINUOUS_ACCESS_EXTENSION
uninstall license_key HP_CONTINUOUS_ACCESS_XP
```

Syntax

```
uninstall license_key <productname...>
```

Arguments

<productname...>

The name of the application to be uninstalled. <productname> can be one application or a set of applications.

Example

```
uninstall license_key HP_CACHE_LUN
uninstall license_key
HP_CACHE_LUN:HP_AUTOLUN_XP:HP_BUSINESS_COPY_XP
```

CLI Commands for the XP128/XP1024

3

This chapter contains CLI commands for LUN and volume management specifically for the XP128/XP1024. This chapter also contains additional CLI commands to list information about DKC and DKU components, and SNMP traps.

LUN MANAGEMENT Commands

This section describes the following commands:

- [create host_group](#) (page 73)
- [create lun](#) (page 75)
- [create wwn](#) (page 78)
- [delete host_group](#) (page 80)
- [delete lun](#) (page 81)
- [delete wwn](#) (page 83)
- [list lun](#) (page 84)
- [list port](#) (page 87)
- [list wwn](#) (page 92)
- [modify cmd_device](#) (page 95)
- [modify fibre_address](#) (page 97)
- [modify fibre_topology](#) (page 98)
- [modify host_group](#) (page 99)
- [modify host_mode](#) (page 100)
- [modify lun_security](#) (page 102)
- [modify wwn](#) (page 103)

create host_group

This command creates host groups. Each port can have up to 128 host groups. This command permits creating multiple host groups for multiple ports in one operation. Each host group is specified by its nickname.

Syntax

```
create host_group <portname...>, <hostgrpnickname...>
```

Arguments

<portname...>

The port in which the host group is to be created. *<portname>* can be specified as one port, a set of ports, or a range of ports (for example, 1A or 1A:1C:1D or 1A-1E). Port names must be specified in truncated form (for example, 1A and not CL1-A) because the hyphen (-) is used to specify a range.

<hostgrpnickname...>

The host group to be created. *<hostgrpnickname>* can be specified as one group nickname or a set of group nicknames (for example, nick1 or nick1:nick3). If more than one port is specified, then the specified host groups are added to all the ports.

Rules for Creating Host Groups

- You must enable LUN security before using this command (see [modify lun_security](#) on page 102).
- Each port can have a maximum of 128 host groups.
- The host group nickname must be unique for the port.
- The host group nickname and WWN nickname should not be the same for the port.
- The host group nickname is mandatory for a host group.
- The host group nickname has a maximum of 8 characters.
- Special characters (such as “¥/ : , ; * ? " < > | ”) are not allowed in the nickname.

Example

```
create host_group 1A-1D:1F,nick1:nick2
create host_group 1F,nick1:nick2
create host_group 1A-1D:1F,nick1
```

create lun

This command adds paths in the disk array and allows for the addition of multiple paths in the disk array in one operation using range operators. Each host group on an XP128/XP1024 can have a maximum of 256 paths, while each port can have a maximum of 512 paths.

Syntax

```
create lun <portname...>, <hostgrpnickname...>,  
<lunid...>, <cu...>, <ldev...>
```

Arguments

<portname...>

The port from which the path has to be created. *<portname>* can be specified as one port, a set of ports, or a range of ports (for example, 1A or 1A:1C:1D or 1A-1E). Port names must be specified in truncated form (for example, 1A and not CL1-A) because the hyphen (-) is used to specify a range.

<hostgrpnickname...>

The host group from which the path has to be created. *<hostgrpnickname>* can be specified as one group nickname or a set of group nicknames (for example, nick1 or nick1:nick3).

<lunid...>

The LUN ID to assign to the path being created. *<lunid>* can be specified as one value, a set of values, or a range of values (for example, 1 or 1:3:7 or 1-F). LUN IDs must be given in hexadecimal. Each host group can have a maximum of 256 LUN IDs.

<cu...>

The CUs to which paths have to be created. *<cu>* can be one value, a set of values, or a range of values (for example, 0 or 0:2:3 or 0-4). CUs must be given in hexadecimal.

<ldev...>

This specifies the LDEVs to which paths have to be created. *<ldev>* can be one value, a set of values, or a range of values (for example, A or 0:A:1A or 0-F). LDEVs must be given in hexadecimal and are not case-sensitive.

The product of the number of values specified in *<hostgrpnickname>* and *<lunid>* should be equal to the product of the number of values specified in *<cu>* and *<ldev>*.

Rules for Creating Paths

- The port type must be fibre channel.
- When you want to add an LU path to a host group (other than the default host group), the port security switch must be set to ON.
- The emulation type of the LDEV must be an open system emulation. OPEN-3, OPEN-8, OPEN-9, OPEN-E, and OPEN-L are supported for the CLI. At this time, OPEN-V is not fully supported by the CLI, but is supported by the Command View GUI. The CLI will display OPEN-V volumes, but will not create OPEN-V volumes.
- A host group can have only one LU path definition for the LDEV.
- When the LDEV is a LUSE volume, you must specify its top LDEV number.
- The range of LU numbers is 0-255.
- The host group can have a maximum of 256 LU paths.
- The port can have a maximum of 512 LU paths.
- The LDEV must not be an Auto LUN reserved volume.

Example

`create lun 1A:1B, nick1:nick2, 2:5-7,0,0:5-B` will create the following paths in the disk array:

1A	nick1	2	0	0
1A	nick1	5	0	5
1A	nick1	6	0	6
1A	nick1	7	0	7
1A	nick2	2	0	8
1A	nick2	5	0	9
1A	nick2	6	0	A
1A	nick2	7	0	B

1B	nick1	2	0	0
1B	nick1	5	0	5
1B	nick1	6	0	6
1B	nick1	7	0	7
1B	nick2	2	0	8
1B	nick2	5	0	9
1B	nick2	6	0	A
1B	nick2	7	0	B

create wwn

Use this command to add WWNs to host groups. Each host group can have up to 255 WWNs and each port can have a maximum of 128 host groups. After the WWN is added to the host group, it has access to the LUNs in the host group.

Syntax

```
create wwn <portname...>, <hostgrpnickname>,  
<Wwn~WwnNickname...>
```

Arguments

<portname...>

The port to which the WWNs are to be added. *<portname>* can be specified as one port, a set of ports, or a range of ports (for example, 1A or 1A:1C:1D or 1A-1E). Port names must be specified in truncated form (for example, 1A and not CL1-A) because the hyphen (-) is used to specify a range. If more than one port is specified, then the WWNs are added to the host group nickname in all the ports.

<hostgrpnickname>

The host group to which the WWNs are to be added. Only one *<hostgrpnickname>* can be specified.

<Wwn~WwnNickname...>

<Wwn> specifies the worldwide name for the host. This must be a 16-digit hexadecimal value, must be unique within the port, and is mandatory.

<WwnNickname> is the nickname used for a WWN. WWN nicknames must be unique for a port, and must not be the same as any host group nickname within the port. The nickname is optional.

WWN and its nickname must be separated by a tilde (~). More than one set of *<Wwn~WwnNickname>* pairs can be specified. The WWNs are added to the *<hostgrpnickname>* in all the specified ports.

Example

```
create wwn 1A,nick1,HJGHHJGHJGH23423~wwnnick1
create wwn
1A,nick1,HJGHHJGHJGH23423~wwnnick1:JJKHKJHHJGH23423~wwnnick2
create wwn 1A:1B,nick1,HJGHHJGHJGH23423~wwnnick1
create wwn
1A:1B,nick1,HJGHHJGHJGH23423~wwnnick1:JJKHKJHHJGH23423~wwnnick2
```

Rules for Adding WWNs to Host Groups

- You must enable LUN security before using this command (see [modify lun_security](#) on page 102).
- Each port can have a maximum of 128 host groups.
- Each port can have a maximum of 255 WWNs.
- Each host group can have a maximum of 255 WWNs.
- The WWN must belong to a host group.
- The WWN must be unique within the port.
- The WWN nickname must be unique within the port.
- The WWN nickname and host group nickname should not be the same within a port.
- The WWN nickname is not mandatory. You can omit it.
- The WWN must be 16 hexadecimal characters.
- The WWN nickname is maximum length is 8 characters.
- Special characters (such as “¥ / : , ; * ? " < > | ”) are not allowed in the nickname.

delete host_group

Use this command to remove host groups from the disk array. Each port can have up to 128 host groups. This command permits deletion of multiple host groups in one operation. Each host group is specified by its nickname. The default host group in every port cannot be deleted.

If you are using firmware version 21.06.22 or later, you can delete host groups (except for host group 0) with or without the port security turned on.

Syntax

```
delete host_group <portname...>, <hostgrpnickname...>
```

Arguments

<portname...>

The port from which the host groups are to be deleted. *<portname>* can be specified as one port, a set of ports, or a range of ports (for example, 1A or 1A:1C:1D or 1A-1E). Port names must be specified in truncated form (for example, 1A and not CL1-A) because the hyphen (-) is used to specify a range.

<hostgrpnickname...>

The host groups to be deleted. *<hostgrpnickname>* can be specified as one group nickname or a set of group nicknames (for example, nick1 or nick1:nick3). If more than one port is specified, then the specified host groups in all the ports are deleted.

Example

```
delete host_group 1A,nick1
delete host_group 1A:1B,nick1
delete host_group 1A,nick1:nick2
delete host_group 1A:1B,nick1:nick2
delete host_group 1A-1C,nick1:nick2
```

delete lun

This command deletes one or more paths in the disk array in one operation. Each path is identified by its port name, host group nickname, LUN ID, CU number, and LDEV number. You can also use this command to delete all paths in specified ports and host groups, or CUs and LDEVs.

If you are using firmware version 21.06.22 or later, you can delete the last path to a command device, and you can delete LUN paths with or without the security turned on.

Syntax

```
delete lun [<portname...>, <hostgrpnickname...>,
<lunid...>, <cu...>, <ldev...>] |
[-port <portname...> -hostgrp <hostgrpnickname...> |
-cu <cu...> -ldev <ldev...>]
```

Arguments

[<portname...>]

The port from which the paths are to be deleted. <portname> can be specified as one port, a set of ports, or a range of ports (for example, 1A or 1A:1C:1D or 1A-1E). Port names must be specified in truncated form (for example, 1A and not CL1-A) because the hyphen (-) is used to specify a range.

[<hostgrpnickname...>]

The host group within the specified port.

[<lunid...>]

The LUN ID. LUN IDs must be given in hexadecimal.

[<cu...>]

The CU number. For the XP128/XP1024, the CU numbers range between 0 to 31. CU numbers must be given in hexadecimal.

[<ldev...>]

The LDEV number. LDEVs must be given in hexadecimal.

`[-port <portname...>]`

Deletes all paths to the specified ports. *<portname>* can be specified as one port, a set of ports, or a range of ports (for example, 1A or 1A:1C:1D or 1A-1E). Port names must be specified in truncated form (for example, 1A and not CL1-A) because the hyphen (-) is used to specify a range. `-port` without any arguments will generate an error. This option cannot be used with the `-cu` and `-ldev` options, but must be used with the `-hostgrp` option. The `-port` option without the `-hostgrp` option will generate an error.

`[-hostgrp <hostgrpnickname...>]`

Deletes all paths assigned to the specified host group defined in the port. *<hostgrpnickname>* can be specified as only one group nickname or a set of group nicknames (for example, nick1 or nick1:nick3). `-hostgrp` without any arguments will generate an error. This option cannot be used along with the `-cu` and `-ldev` options, but must be used with the `-port` option. The `-hostgrp` option without the `-port` option will generate an error.

`[-cu <cu...>]`

Deletes all paths to the specified cu. *<cu>* can be one value, a set of values, or a range of values (for example, 0 or 0:2:3 or 0-4). CUs must be given in hexadecimal. `-cu` without any arguments will generate an error. This option cannot be used along with the `-port` and `-hostgrp` options, but must be used with the `-ldev` option. The `-cu` option without the `-ldev` option will generate an error.

`[-ldev <ldev...>]`

Deletes all paths to the specified LDEVs. *<ldev>* can be one value, a set of values, or a range of values (for example, A or 0:A:1A or 0-F). LDEVs must be given in hexadecimal and are not case-sensitive. `-ldev` without any arguments will generate an error. This option cannot be used along with the `-port` and `-hostgrp` options, but must be used with the `-cu` option. The `-ldev` option without the `-cu` option will generate an error.

Example

```
delete lun 1A,nick1,0,0,00
delete lun 1A:1B,nick1,0,0,00
delete lun -port 1A:1C -hostgrp nick1
delete lun -cu 0 -ldev 00:01
delete lun -cu 0:1 -ldev 00:01
```

delete wwn

Use this command to delete WWNs from host groups. Once the WWN is deleted from a host group it can no longer access the LUNs in that host group.

You can also use this command to delete multiple WWNs in one operation. The WWNs can be deleted using either the WWN or WWN nickname.

If you are using firmware version 21.06.22 or later, you can delete WWNs with or without the port security turned on.

Syntax

```
delete wwn <portname...> [, <hostgrpnickname>  
[, <WwnNickname/wwn...>]]
```

Arguments

<portname...>

The ports from which the WWNs are to be deleted. <portname> can be specified as one port, a set of ports, or a range of ports (for example, 1A or 1A:1C:1D or 1A-1E). Port names must be specified in truncated form (for example, 1A and not CL1-A) because the hyphen (-) is used to specify a range.

[<hostgrpnickname>]

The host group containing the WWNs. If the host group is not specified, then all the WWNs in the specified ports will be deleted. Only one host group can be specified (for example, nick1).

[<WwnNickname/wwn...>]

The WWN nickname or WWN to be deleted. One or a set of nicknames can be specified (for example, wwnnick1 or wwnnick1:wwnnick2). WWN must be a 16-digit hexadecimal value. One WWN or a set of WWNs can be specified (for example, wwn1 or wwn1:wwn2).

Example

```
delete wwn 1A,nick1,JJKHKJHHJGH23423  
delete wwn 1A,nick1,wwn1:wwn2
```

list lun

This command displays path related configuration details. Each path is identified by its port name, host group nickname, LUN ID, CU number, and LDEV number. The LUN ID, CU number, and LDEV number are in hexadecimal.

Use `list lun` to query for the following information:

- **PortName.** The port from which the path has been created. Ports in the disk array are identified through their port names (for example, CL1-A and CL1-B).
- **GroupNickName.** The host group from which the path has been created. The XP128/XP1024 supports up to 128 host groups for each port and each host group is identified by its nickname. The host group nickname is unique for a port.

Each port has one default host group. This default host group will always be accessible irrespective of the security switch status. An LDEV can have only one path defined from a host group. There cannot be multiple paths to the same LDEV from a host group.
- **LunID.** Each host group can have between 0 to 255 LUN IDs. LUN IDs are displayed in hexadecimal.
- **CU.** The CU number to which the path has been created. With the XP128/XP1024, the CU numbers range from 0 to 31. CU numbers are displayed in hexadecimal.
- **LDEV.** The LDEV number to which the path has been created. Each CU can have LDEVs numbered between 0 to 255. LDEV numbers are displayed in hexadecimal.
- **TotalPaths.** The total number of paths that have been assigned to this LDEV.
- **Emulation.** The emulation type of the LDEV to which the path has been created. The CLI displays only open volume emulations.
- **DeviceType.** Specifies whether the LDEV is a command device or not. The possible values are CmdDev and LUN.
- **Capacity (MB).** The size of the LUN in megabytes.

Syntax

```
list lun [-port <portname...>]  
[-hostGrp <hostgrpnickname...>] | [-cu <cu...>]  
[-ldev <ldev...>] [-cmd <cmdname>]  
[-category <cmdcategory>]
```

Arguments

`[-port <portname...>]`

Displays paths for only the specified ports. *<portname>* can be specified as one port, a set of ports, or a range of ports (for example, 1A or 1A:1C:1D or 1A-1E). Port names must be specified in truncated form (for example, 1A and not CL1-A) because the hyphen (-) is used to specify a range. `-port` without any arguments will generate an error.

`[-hostGrp <hostgrpnickname...>]`

Displays the paths for only the specified host groups. *<hostgrpnickname>* can be specified as one host group nickname or a set of host group nicknames (for example, nick1 or nick1:nick3). `-hostGrp` without any arguments will generate an error.

`[-cu <cu...>]`

Displays only the paths in the specified CUs. *<cu>* can be one value, a set of values, or a range of values (for example, 0 or 0:2:3 or 0-4). CUs must be given in hexadecimal. `-cu` without any arguments will generate an error.

`[-ldev <ldev...>]`

Displays only the paths to the specified LDEVs. *<ldev>* can be one value, a set of values, or a range of values (for example, A or 0:A:1A or 0-F). LDEVs must be given in hexadecimal and are not case-sensitive. `-ldev` without any arguments will generate an error.

If the `-ldev` option is used with the `-cu` option, the output will consist of all the paths to the specified LDEV in the specified CUs.

`[-cmd <cmdname>]` or `[-category <cmdcategory>]`

Displays the output with the command name or category appended at the beginning of the record with no headers. When used with `-csv` and `-o`, the formatted output obtained can be used as input.

Example

`list lun` without any options displays all the paths defined in the disk array. Fields are PortName, GroupNickName, LunID, CU, and LDEV.

PortName	GroupNickName	LunID	CU	LDEV
CL1-A	GrpNick1	0	0	00
CL1-B	GrpNick1	1	0	02
CL1-A	GrpNick4	1	0	0A
CL1-E	GrpNick1	0	0	00
CL1-a	GrpNick1	0	0	00

`list lun` with the `-l` option displays all the paths defined in the disk array along with the total number of paths to the CU:LDEV, emulation, device type and capacity.

PortName	GroupNickName	LunID	CU	LDEV	TotalPaths	Emulation
DeviceType	CAPACITY					
CL1-A	GrpNick1	0	0	00	1	OPEN-E
LUN	30					
CL1-B	GrpNick1	1	0	02	1	OPEN-3
LUN	20					
CL1-A	GrpNick4	1	0	0A	1	OPEN-E
LUN	35					
CL1-E	GrpNick1	0	0	00	1	OPEN-9
LUN	20					
CL1-a	GrpNick1	0	0	00	2	OPEN-E
CmdDev	10					

All Options are Specified

If all the options are specified, the output will consist of those paths from the specified host groups within the specified ports to the specified LDEVs in the specified CUs.

The format of the output will be the same as the default output for `list lun`.

The `-l` option output is the same as for `list lun` with the `-l` option.

list port

This command displays the port configuration. Each port in the disk array has the following information associated with it:

- **Portname.** Ports in the disk array are identified by their portname (for example, CL1-A and CL1-B).
- **Type.** The type of port. On the XP128/XP1024, the only port type is Fibre Channel.
- **Address.** The port's AL-PA address. This column displays Arbitrated Loop Physical Addresses and loop ID values (for example, EF(0) and E8(1)).
- **Topology.** The topology used by the port. This column displays the Fibre Channel switch status (ON or OFF) and the connection type (FC-AL or point-to-point).
- **WWN.** The port's worldwide name (WWN).
- **Channel Speed.** This is the channel speed of the port. The XP128/XP1024 supports three channel speed modes: 1GB fiber, 2GB fiber, and auto mode. If the port is in auto mode, the disk array will automatically select 1GB or 2GB mode.
- **Security.** This displays the LUN security switch status for the port. Security can be either ON or OFF. If the security switch is ON, each WWN can access the LUNs available to the host group it belongs to. If the switch is OFF, host access for all host groups except the default host group is disabled. If you are using firmware version 21.06.22 or later, you can delete host groups (except for host group 0), WWNs, or LUN paths with or without the port security turned on. Only WWNs in the default host group can access the LUNs in that group.
- **HostGroupNickname.** Host groups are used to organize the types of hosts that can access the LUNs. The XP128/XP1024 supports up to 128 host groups for each port and each host group is identified by a nickname. The host group nickname is unique for a port. Also, the first host group in every port is the default host group. This default host group will always be accessible irrespective of the security switch status.
- **HostMode.** Host mode is based on the types of host operating systems. Each host group has a one host mode, and only hosts of the one operating system should be members of a host group. Host group members can access the LUNs assigned to that host group.

Syntax

```
list port [-security -address -topology | -hostgrp]
[-port <portname...>] [-cmd <cmdname>]
[-category <cmdcategory>]
```

Arguments

`[-security]`

Displays all port names and their security switch status.

`[-address]`

Displays all port names and their Fibre Channel addresses (AL-PA and loop ID values).

`[-topology]`

Displays all port names and their Fibre Channel topologies. The topology column displays the fabric switch status (ON or OFF) and the topology (FC-AL or point-to-point).

`[-hostgrp]`

Displays all ports, all configured host groups for each port and the host mode name for each host group. This option cannot be used with `-address`, `-topology`, or `-security`.

`[-port <portname...>]`

Used with other options (`-address`, `-topology`, `-security`, `-hostGrp`, or only with `list port`) to display only specific ports. You can specify `<portname>` as one port, a set of ports, or a range of ports (for example, 1A or 1A:1C:1D or 1A-1E). Port names must be specified in truncated form (for example, 1A and not CL1-A) because the hyphen (-) is used to specify a range. If you use the `-port` option without a port name, an error message will be generated.

`[-cmd <cmdname>]` or `[-category <cmdcategory>]`

Displays the output with the command name or category appended at the beginning of the record with no headers. When used with `-csv` and `-o`, the formatted output obtained can be used as input.

Example

`list port` without any options displays all port names.

```
PortName
CL1-A
CL1-B
CL1-a
CL1-b
```

-l Option

`list port` with the `-l` option displays all port names and the information associated with each port (PortName, Type Address, Topology, Wwn, ChannelSpeed, Security).

PortName	Type	Address	Topology	Wwn
CL1-A	Fibre	EF(0)	Fabric ON & Point-to-Point	wwn1
1GB	Fibre	ON		
CL1-B	Fibre	E2(3)	Fabric ON & FC-AL	wwn2
1GB	Fibre	ON		
CL1-a	Fibre	73(63)	Fabric OFF & Point-to-Point	wwn3
Auto	Mode	ON		
CL1-b	Fibre	EF(0)	Fabric OFF & FC-AL	wwn6
1GB	Fibre	ON		

[-security]

```
PortNameSecurity
CL1-A    ON
CL1-B    OFF
CL1-a    OFF
CL1-b    ON
```

The `-l` option produces the same output as `list port -l`.

[-address]

PortName	Address
CL1-A	EF(0)
CL1-B	E2(3)
CL1-a	73(63)
CL1-b	EF(0)

The `-l` option produces the same output as `list port -l`.

[-topology]

PortName	Topology
CL1-A	Fabric ON & Point-to-Point
CL1-B	Fabric OFF & Point-to-Point
CL1-a	Fabric ON & FC-AL
CL1-b	Fabric OFF & FC-AL

The `-l` option produces the same output as `list port -l`.

[-hostgrp]

PortName	HostGroupNickname	HostModeName
CL1-A	nick1	Standard
CL1-B	nick2	HP
CL1-a	nick1	Standard
CL1-b	nick3	AIX

The `-hostGrp -l` option displays all ports, all configured host groups for each port, the host mode name for each host group, and the host mode number. This option cannot be used with `-address`, `-topology`, or `-security`.

PortName	HostGroupNickname	HostMode	HostModeName
CL1-A	nick1	00	Standard
CL1-B	nick2	08	HP
CL1-a	nick1	00	Standard
CL1-b	nick3	0F	AIX

[-port <portname...>]

The format of the output will be the same as the default output for `list port` or `list port` with `-security`, `-address`, `-topology`, or `-hostGrp`. The output will reflect only the specified ports.

```
list port -security -port 1A:1C:1a-1e
```

PortName	Security
CL1-A	ON
CL1-C	ON
CL1-a	OFF
CL1-b	ON
CL1-c	OFF
CL1-d	ON
CL1-e	ON

The `-l` option produces output that is dependent on the options used. The format of the output will be the same as the output for `list port -l`, `list port -l` with `-security`, `-address`, `-topology`, `-hostGrp`, etc., if used with those options. The key point is that the output will consist of only the specified ports.

list wwn

This command displays the WWN information for the hosts that can access the LUNs. Each host connected to the disk array is identified by its WWN.

WWNs are added to host groups within the ports, and all WWNs assigned to a host group can access the LUNs in that host group. If you are using a firmware version before version 21.06.22, the LUN accessibility by the hosts is also limited by the ports security switch. The WWNs can access the LUNs only if the security switch of the ports is ON. When the port security switch is OFF, only WWNs connected to the default host group can access the LUNs.

If you are using firmware version 21.06.22 or later, you can delete host groups (except for host group 0), WWNs, or LUN paths with or without the port security turned on.

Use `list wwn` to query the WWNs in the host groups and ports for the following information items.

- **Portname.** This is the name of the port to which the WWNs are assigned. Ports in the disk array are identified through their port name (for example, CL1-A and CL1-B).
- **WWN.** The worldwide name for the host. There can be a maximum of 255 WWNs defined for a port.
- **WWNNickname.** The nickname used for each WWN. WWN Nicknames must be unique for a port. If the nickname is not specified, then this column is null.
- **HostGroupNickName.** The host group to which the WWN has been assigned. Host groups identify the type of hosts that can access the LUNs. The XP128/XP1024 supports up to 128 host groups for each port and each host group is identified by its nickname. The host group nickname is unique for a port. The first host group in each port is also the default host group. Each port will have at least one host group (which is the default host group). This default host group will always be accessible irrespective of the security switch status.

Syntax

```
list wwn [-port <portname...>]
[-hostGrp <HostGrpNickName...>] [-cmd <cmdname>]
[-category <cmdcategory>]
```

Arguments

`[-port <portname...>]`

Displays the WWNs for only the specified ports. *<portname>* can be specified as one port, a set of ports, or a range of ports (for example, 1A or 1A:1C:1D or 1A-1E). Port names must be specified in truncated form (for example, 1A and not CL1-A) because the hyphen (-) is used to specify a range. `-port` without any arguments will generate an error.

`[-hostGrp <HostGrpNickname...>]`

Displays the WWNs for the specified host groups. *<HostGrpNickname>* can be specified as one group nickname or a set of group nicknames (for example, nick1 or nick1:nick3). `-hostGrp` without any arguments will generate an error.

`[-cmd <cmdname>]` or `[-category <cmdcategory>]`

Displays the output with the command name or category appended at the beginning of the record with no headers. When used with `-csv` and `-o`, the formatted output obtained can be used as input.

Example

`list wwn` without any options displays all the WWNs configured in the disk array.

PortName	Wwn
CL1-A	HJGHHJGHJGH23423
CL1-A	JJKHKJHHJGH23423
CL1-B	HJhfhdshJGH878JK
CL1-B	HJGHHJGHJGH23423
CL1-B	JJKHKJHHJGH23423
CL1-B	JHNJYGJHHHJGHJJH

The `-l` option output displays all the WWNs configured in the disk array along with the host group nickname and WWN nickname.

PortName	HostGrpNickName	Wwn	WwnNickName
CL1-A	grpnick1	HJGHHJGHJGH23423	wnn1
CL1-A	grpnick2	JJKHKJHHJGH23423	wnn2
CL1-B	grpnick3	HJhfhdsHJGH878JK	wnn3
CL1-B	grpnick4	HJGHHJGHJGH23423	wnn4
CL1-B	grpnick5	JJKHKJHHJGH23423	wnn5
CL1-B	grpnick6	JHNJYGJHHHJGHJJH	wnn6

modify cmd_device

Use this command to:

- Set an LDEV as a command device
- Release an existing command device
- Enable (set ON) command device security
- Disable (set OFF) command device security

If you are using firmware version 21.06.22 or later, you can set or release a command device without a path.

Syntax

```
modify cmd_device -set <cu...>,<ldev...>  
-security ON|OFF | -release <cu...>,<ldev...>
```

Arguments

-set <cu...> or -release <cu...>

The CU whose LDEV is to be set or released as a command device. <cu> can be one value, a set of values, or a range of values (for example, 0 or 0:2:3 or 0-4). CUs must be given in hexadecimal.

-set <ldev...> or -release <ldev...>

The LDEV that is to be set or released as a command device. <ldev> can be one value, a set of values, or a range of values (for example, A or 0:A:1A or 0-F). LDEVs must be given in hexadecimal and are not case-sensitive.

If more than one CU is specified, the specified LDEVs in all the specified CUs are modified.

-security ON|OFF

This option enables (sets ON) or disables (sets OFF) the command device security switch. The number of switches specified should be equal to the number of LDEVs specified. If only one switch is specified, all the LDEVs are assigned the specified switch value. If the number of switches specified is equal to the number of LDEVs, then there is a one-to-one correspondence between the LDEVs and the values. In all other cases this command generates an error. This option can be used only with -set option.

Example

```
modify cmd_device -set 0,00
modify cmd_device -set 0,00:01
modify cmd_device -set 0,00 -security ON
modify cmd_device -set 0,00:01 -security OFF
modify cmd_device -release 0,01 -security ON,OFF
modify cmd_device -set 0:1,00
```

modify fibre_address

Use this command to modify port addresses. It is available for fibre ports only.

Syntax

```
modify fibre_address <portname...>, <address...>
```

Arguments

<portname...>

The port whose address is to be modified. *<portname>* can be specified as one port, a set of ports, or a range of ports (for example, 1A or 1A:1C:1D or 1A-1E). Port names must be specified in truncated form (for example, 1A and not CL1-A) because the hyphen (-) is used to specify a range.

<address...>

The addresses to be set. The fibre addresses are specified as AL-PA values. The number of values specified should be equal the number of port names specified. If only one address is specified, all the ports are assigned addresses consecutively starting from the address specified. If the number of values specified is equal to the number of port names, then there is a one-to-one correspondence between the port names and the addresses. In other cases this command generates an error.

Example

```
modify fibre_address 1A,EF
modify fibre_address 1A:1B-1E,EF
modify fibre_address 1A:1B,EF:E2
```

modify fibre_topology

This command modifies the port topologies. It is available for fibre ports only.

Syntax

```
modify fibre_topology <portname...>, <topology...>
```

Arguments

<portname...>

The ports whose topologies are to be modified. *<portname>* can be specified as one port, a set of ports, or a range of ports (for example, 1A or 1A:1C:1D or 1A-1E). Port names must be specified in truncated form (for example, 1A and not CL1-A) because the hyphen (-) is used to specify a range.

<topology...>

The topologies to be set. Fibre topologies are specified in the range between 1 to 4. The number of values specified should be equal to the number of port names specified. If only one topology is specified, all the ports are assigned the specified topology. If the number of values specified is equal to the number of port names, then there is a one-to-one correspondence between the port names and the topologies. In other cases this command generates an error.

Example

```
modify fibre_topology 1A,1
modify fibre_topology 1A:1B-1E,2
modify fibre_topology 1A:1B,1:2
```

modify host_group

This command modifies the host group nickname for a port. You must enable LUN security before using this command (see [modify lun_security](#) on page 102).

Syntax

```
modify host_group <portname>, <OldHostGrpNickname>,  
<NewHostGrpNickname>
```

Arguments

<portname>

The ports whose host group is to be modified. Port names must be specified in truncated form (for example, 1A and not CL1-A) because the hyphen (-) is used to specify a range.

<OldHostGrpNickname>

The host group nickname that is to be modified. Only one *<OldHostGrpNickname>* can be specified (for example, nick1).

<NewHostGrpNickname>

The new host group nickname to be set. Only one *<NewHostGrpNickname>* can be specified (for example, nick2).

Example

```
modify host_group 1A,nick1,nick2
```

modify host_mode

Use this command to modify the host mode for a host group in a port and to modify host modes for multiple host groups in one operation.

To perform the modify host_mode operation, the security switch must be set to ON for host groups, except for host group 0.

Syntax

```
modify host_mode <portname...>, <HostGrpNickname...>,  
<HostMode...>
```

Arguments

<portname...>

The port that contains the host groups. *<portname>* can be specified as one port, a set of ports, or a range of ports (for example, 1A or 1A:1B or 1A-1C). Port names must be specified in truncated form (for example, 1A and not CL1-A) because the hyphen (-) is used to specify a range.

<HostGrpNickname...>

The host group nicknames whose host modes are to be modified.

<HostGrpNickname> can be specified as one group nickname or a set of group nicknames (for example, nick1 or nick1:nick3). If more than one port name is specified, then the specified host groups in all the ports are modified.

<HostMode...>

The new host mode to be set. *<HostMode>* can be specified as one value or a set of values (for example, 08 or 00:08). If only one host mode is specified, all the host groups are assigned the host mode specified. If the number of values specified is equal to the number of groups, then there is a one-to-one correspondence between the host groups and the host modes. In other cases this command generates an error. The following host mode values are supported for the XP128/XP1024:

- 00: Standard
- 04: Sequent
- 08: HP-UX
- 09: VxVM-DMP

-
- 0A: NetWare
 - 0C: MS Cluster Server
 - 0D - 0F: Reserved

Example

```
modify host_mode 1A,nick1,00  
modify host_mode 1A,nick1:nick2,00
```

modify lun_security

This command enables (ON) or disables (OFF) the port security switch.

Syntax

```
modify lun_security <portname...>, ON|OFF
```

Arguments

<portname...>

The ports whose security switch is to be modified. *<portname>* can be specified as one port, a set of ports, or a range of ports (for example, 1A or 1A:1C:1D or 1A-1E). Port names must be specified in truncated form (for example, 1A and not CL1-A) because the hyphen (-) is used to specify a range.

ON|OFF

The switch value. The security switch can be ON or OFF. The number of values specified should be equal to the number of port names specified. If only one switch value is specified, all the specified port names are set to this value. If the number of values specified is equal to the number of port names, then there is a one-to-one correspondence between the port names and the switches. In other cases this command generates an error.

Example

```
modify lun_security 1A,OFF
modify lun_security 1A:1B-1F,ON
modify lun_security 1A:1B,OFF:ON
```

modify wwn

Use this command to modify the WWN and WWN nickname of a host. You must enable LUN security before using this command (see [modify lun_security](#) on page 102).

Syntax

```
modify wwn <portname>, <HostGrpNickName>,  
<oldwwn/oldwwnNickName>  
[-wwn <newWwn> | -nickname <newWwnNickName>]
```

Arguments

<portname>

The port whose WWN or WWN nickname is to be modified. *<portname>* must be specified as one port. Port names must be specified in truncated form (for example, 1A and not CL1-A) because the hyphen (-) is used to specify a range.

<HostGrpNickName>

The host group nickname whose WWN or WWN nickname is to be modified. Only one *<hostgrpnickname>* can be specified.

<oldwwn/oldwwnNickName>

The WWN or WWN nickname whose WWN or WWN nickname has to be modified. Only one *<oldwwn/oldwwnNickName>* can be specified.

[-wwn <newWwn>]

Modifies the WWN value (the worldwide name value for the host). This must be a 16-digit hexadecimal value and must be unique within the port. *-wwn* must be specified if *-nickname* is not specified, and cannot be used with *-nickname*.

[-nickname <newWwnNickName>]

Modifies the WWN nickname. *WwnNickName* is the nickname used for a WWN. WWN nicknames are unique for a port, and must not be the same as any host group nickname within the port. *-nickname* must be specified if *-wwn* is not specified, and cannot be used with *-wwn*.

Example

```
modify wwn 1A,nick1,wwnnick1 -wwn JJKHKJHHJGH23423
modify wwn 1A,nick1,wwnnick1 -nickname wwnnick1
```

VOLUME MANAGEMENT Commands

This section describes the following commands:

- [create custom_ldevs](#) (page 106)
- [create luse](#) (page 108)
- [delete ldevs](#) (page 110)
- [delete luse](#) (page 112)
- [initialize vdev](#) (page 113)
- [list ldev](#) (page 115)
- [list luse](#) (page 121)
- [list parity_group](#) (page 123)
- [list usable_cus](#) (page 128)
- [list vsc](#) (page 129)

create custom_ldevs

This command creates new custom LDEVs and can be executed depending on the amount of free space present in the VDEV. You can display a list of available free spaces in the VDEV by using the `list parity_group -fs` command.

You must supply an LDEV ID when you create custom LDEVs. You can list unused LDEV IDs with the `list vsc -unused` command.

The new custom LDEVs that are created will have the same emulation type and LDEV size, and will be only for one domain, parity group, and VDEV. If you want to create custom LDEVs over multiple domains, parity groups, and VDEVs, with different emulation types and LDEV sizes, consider using a batch file containing multiple `create custom_ldevs` commands.

Syntax

```
create custom_ldevs <domain>, <PG>, <vdev>,  
<emulation_type>, <ldev_size>, <cu_ID...>,  
<ldev_ID...>
```

Arguments

<domain>

The domain for the new custom LDEV.

<PG>

The parity group number for the new custom LDEV.

<vdev>

The VDEV for the new custom LDEV.

<emulation_type>

The emulation type of the new custom LDEV. Other emulation types, such as OPEN-3, OPEN-9, OPEN-8, or OPEN-E, can be mixed if the base emulation type of the VDEV is one of these emulation types. At this time, OPEN-V is not fully supported by the CLI, but is supported by the Command View GUI. The CLI will display OPEN-V volumes, but will not create OPEN-V volumes. To list the emulation type of the VDEV, execute `list parity_group -emulation`.

`<ldev_size>`

The size of the new custom LDEV. The minimum size is 36 MB. The following are the maximum sizes that you can assign to an LDEV for a particular emulation type.

OPEN-3: 2347 MB

OPEN-8: 7007 MB

OPEN-9: 7042 MB

OPEN-E: 13893 MB

`<cu_ID...>`

The CU ID for the new custom LDEV. CUs must be given in hexadecimal. You can enter a single value, a set of values, or a range of values (for example, 0 or 0:2:3 or 0-4).

`<ldev_ID...>`

The LDEV ID for the new LDEV. The LDEV ID must be given in hexadecimal and is not case-sensitive. You can enter a single value, a set of values, or a range of values (for example, 01-03 or 01:02:04-06:0B).

Example

```
create custom_ldevs 1, 1, 1, OPEN-3, 500, 00:01, 00:02-04:0D
```

Domain	PG	VDev	CU	LDev	EmulationType	LdevSize
1	1	1	00	00	OPEN-3	500
1	1	1	00	02	OPEN-3	500
1	1	1	00	03	OPEN-3	500
1	1	1	00	04	OPEN-3	500
1	1	1	00	0D	OPEN-3	500
1	1	1	01	00	OPEN-3	500
1	1	1	01	02	OPEN-3	500
1	1	1	01	03	OPEN-3	500
1	1	1	01	04	OPEN-3	500
1	1	1	01	0D	OPEN-3	500

create luse

Use this command to create expanded volumes in the disk array. Each LUSE volume can have 2 to 36 LDEVs. This command allows for the creation of only one LUSE volume in one operation.

A LUSE volume can be created in one of two modes: *continuous* or *disperse*. Optionally, one or more paths can be defined for the LUSE.

Syntax

```
create luse <topCU>, <topLdev> -continuous <offset> |  
-disperse <device_ldevs...>  
[-lun <port...>,<hostgrpnickname>,<lunid>]
```

Arguments

<topCU>

The CU number of the first LDEV in the expanded volume. <topCU> must be given in hexadecimal.

<topLdev>

The LDEV of the first LDEV in the expanded volume. <topLdev> must be given in hexadecimal and is not case-sensitive.

-continuous <offset>

Use this option to create the expanded volume in continuous mode. <offset> specifies the total number of consecutive LDEVs that will be combined into one volume. <offset> does not include the top LDEV. The possible range for <offset> is 1 - 35. This option cannot be used with the -disperse option.

-disperse <device_ldevs...>

Use this option to create the expanded volume in disperse mode. <device_ldevs> specifies the list of LDEVs that will be expanded into one volume. <device_ldevs> can be a set of values or a range of values (for example, A or 0:A:1A or 0-F). LDEVs must be given in hexadecimal and are not case-sensitive. This option cannot be used with the -continuous option.

```
[ -lun <portname...>,<hostgrpnickname>,<lunid> ]
```

The `-lun` option specifies the paths to the LUSE volume. It is not mandatory. It is possible to create an expanded volume without any associated path.

`<portname>`, `<hostgrpnickname>`, `<lunid>` specify the complete path.

`<portname>` can be specified as one port, a set of ports, or a range of ports (for example, 1A or 1A:1C:1D or 1A-1E). Port names must be specified in truncated form (for example, 1A and not CL1-A) because the hyphen (-) is used to specify a range. LUN IDs must be given in hexadecimal.

Rules for Creating a LUSE Volume

- An LDEV that is already expanded can not be expanded again.
- The LDEVs in a LUSE volume must be in same CU.
- The LDEVs in a LUSE volume cannot already have a path.
- The LDEVs in a LUSE volume must be of the same emulation type.
- The LDEVs in a LUSE volume must be the same RAID level.
- Emulation types of the LDEVs in a LUSE volume must be OPEN-3, OPEN-8, OPEN-9, OPEN-E, or OPEN-L. At this time, OPEN-V is not fully supported by the CLI, but is supported by the Command View GUI. The CLI will display OPEN-V volumes, but will not create OPEN-V volumes.
- You can combine custom volumes into LUSE volumes. However, the custom volumes must be same size.
- LDEVs set as Auto LUN reserved volumes for cannot be used as part of a LUSE volume.
- The CU:LDEV number of a LUSE volume the CU:LDEV number of the top LDEV.
- The top LDEV must have the numerically smallest CU:LDEV number in the LUSE volume.

Example

```
create luse 0,00 -continuous 3
create luse 0,00 -continuous 3 -lun 1A:1B,nick1,0
create luse 0,00 -disperse 03:05:0A
create luse 0,00 -disperse 03:05:0A -lun 1D,nick1,0
```

delete ldevs

This command converts custom LDEVs or normal LDEVs into free space. This command cannot convert the last normal LDEV to free space. The LDEVs to be deleted should not have path added to itself, not be a part of LUSE volume, not be a command device and should not be an Auto LUN reserved volume. Users cannot delete OPEN-V volumes. Also, this command does not support OPEN-K, OPEN-L, and OPEN-M emulation types.

The list of LDEVs that can be deleted can be obtained by executing the command `list vsc -deletable`.

Syntax

```
delete ldevs <domain>, <PG>, <vdev>, <cu...>,  
<ldevID...>
```

Arguments

<domain>

The domain for which the deletion of LDEVs is to be done.

<PG>

The PG for which the deletion of LDEVs is to be done. To delete LDEVs for multiple PGs in a domain, create a command file and use the `-f <filename>` option.

<vdev>

The VDEV for which the deletion of LDEVs is to be done. To delete multiple VDEVs, create a command file and use the `-f <filename>` option.

<cu...>

The CU ID of the LDEVs to be deleted. The CU must be given in hexadecimal. You can enter a single value, a set of values, or a range of values (for example, 0 or 0:2:3 or 0-4).

<ldevID...>

The LDEV ID of the LDEV to be deleted. LDEV IDs must be given in hexadecimal and are not case-sensitive. You can enter a single value, a set of values, or a range of values (for example, 01-03 or 01:02:04-06:0B).

Example

`delete ldevs 1, 1, 1, 00:01, 00:02-04:0D`

will delete the following LDEVs:

Domain	PG	VDev	CU	LDev
1	1	1	00	00
1	1	1	00	02
1	1	1	00	03
1	1	1	00	04
1	1	1	00	0D
1	1	1	01	00
1	1	1	01	02
1	1	1	01	03
1	1	1	01	04
1	1	1	01	0D

delete luse

This command releases expanded volumes. This command allows for the release of multiple LUSEs in one operation.

Syntax

```
delete luse <topCU...>, <topLDev...>
```

Arguments

<topCU...>

The CU number of the expanded volume. *<topCU>* can be one value, a set of values, or a range of values (for example, 0 or 0:2:3 or 0-4). CUs must be given in hexadecimal.

<topLDev...>

The LDEV number of the expanded volume. *<topLDev>* can be one value, a set of values, or a range of values (for example, A or 0:A:1A or 0-F). LDEVs must be given in hexadecimal and are not case-sensitive.

If more than one *<topCU>* is specified, then all the specified expanded volumes in all the specified CUs are released.

Example

```
delete luse 0,00
delete luse 0,00:03
```

initialize vdev

Use this command to regain the initial configuration of the VDEV. This operation deletes all the custom volumes created on this VDEV and creates the normal LDEVs deleted by the user.

A custom LDEV, if present, will be deleted. These custom LDEVs cannot have a path assigned, be a part of a LUSE volume, be a command device, or be part of an Auto LUN reserved volume.

You need to enter the exact number of LDEV IDs. This count can be determined by executing the command `list parity_group -initializecount`, and is the number of normal volumes deleted on this VDEV.

Syntax

```
initialize vdev <domain>, <PG>, <vdev>,  
<cu(ldev...)...>
```

Arguments

<domain>

The domain present in the disk array.

<PG>

The parity group present in the disk array.

<vdev>

The VDEV in the disk array for which the initialization is desired.

<cu(ldev...)...>

The IDs of the new normal LDEVs to be created. The format of the CU:LDEV combination is unique for this command and should be used only for this command. For each CU value, specify which LDEVs you want to use. You can repeat this for multiple CUs, but the CU number should not be repeated. CUs and LDEVs must be given in hexadecimal.

To create LDEVs with CU:LDEV IDs 00:00, 01:00, 02:00 and 03:00, use:

00(00):01(00):02(00):03(00)

To create LDEVs with CU:LDEV IDs 00:00, 00:01, 00:02, 00:03, 01:00 and 01:02, use:

00(00-03):01(00:02)

To create LDEVs with CU:LDev IDs 00:01, 00:03, 00:05, 00:0D, 03:0A and 03:0C, use:

00(01:03-05:0D):03(0A-0C)

Example

After a successful initialize operation, the following new normal LDEVs will be created.

```
initialize vdev 1,1,1, 00(00-03):01(0A-0C):03(f0:ff)
```

Domain	PG	VDev	CU	LDev
1	1	1	00	00
1	1	1	00	01
1	1	1	00	02
1	1	1	00	03
1	1	1	01	0A
1	1	1	01	0B
1	1	1	01	0C
1	1	1	03	f0
1	1	1	03	ff

list ldev

This command displays logical device configuration details. Each LDEV is identified by the CU number it belongs to and an LDEV number. CU number and LDEV numbers are represented in hexadecimal.

Use `list ldev` to query the following items:

- **Domain.** The domain to which this LDEV's parity group belongs. Also referred to as FB4 number. With the XP128/XP1024, the number of domains in the disk array will be 1 or 2.
- **PG.** The parity group number to which this LDEV belongs. The XP128/XP1024 has between 1 and 32 parity groups per domain.
- **VDEV.** VDEV is subdivision of PG and depends on the RAID level of the parity group and hard disk capacity. With the XP128/XP1024, the number of VDEVs per PG will be 1 to 16.
- **CU.** The CU number to which the LDEV belongs to. With the XP128/XP1024, the CU numbers range between 0 to 31.
- **LDEV.** The LDEV number. Each CU can have LDEVs numbered between 0 to 255. LDEV numbers are displayed in hexadecimal.
- **Emulation.** The emulation type of the LDEV. The CLI displays only open volume emulations. For LUSE volumes, the emulation type will be displayed as OPEN-X * n, where n represents the total number of LDEVs that comprise the LUSE volume.
- **ExpansionStatus.** The expansion status of the LDEV. An LDEV can be in one of three states: a single LDEV ("NOT EXPANDED"), first LDEV in an expanded volume ("EXPANDED TOP"), or a part of the expanded volume ("EXPANDED NON TOP").
- **Count.** The number of LDEVs that constitute an expanded volume. This is applicable only for volumes that are not expanded and the top LDEV in expanded volumes. The possible values are: 0 or 1 for "NON TOP EXPANDED" LDEVs, 1 for "NOT EXPANDED" LDEVs, or greater than 1 for "EXPANDED TOP" LDEVs.
- **TotalPaths.** The total number of paths that have been assigned to an LDEV. "0" indicates that there is no path currently defined for an LDEV.
- **Capacity (MB).** The size of the LDEV in megabytes.

- **Reserved.** Displays whether the LDEV is a reserved or normal volume. Reserved volumes are used by Auto LUN for data migration. The possible values for this column are “RESERVED” and “NORMAL.”
- **DeviceType.** Displays whether the LDEV is a command device or not. The possible values are CmdDev and LUN.
- **CmdDevSecurity.** Displays whether command device security is switched ON or OFF. This is applicable only for LDEVs designated as command devices. The possible values are ON and OFF. For all other devices, this value is N/A.
- **RAID.** Displays the RAID level of the parity group to which this LDEV belongs. The supported RAID levels are RAID1 and RAID5.
- **LDevType.** Displays the kind of LDEV (custom or normal LDEV).

Syntax

```
list ldev [-cmddev | -lu | -unallocated]
[-emulation <emulation_type...>] [-ldev <ldev...>]
[-cu <cu...>]
```

Arguments

`[-cmddev]`

Displays only the LDEVs that have been designated as command devices. This option also displays whether the command device security status is set to ON or OFF. This option cannot be used with the `-lu` and `-unallocated` options.

`[-lu]`

Displays the LDEVs that are not expanded (“NOT EXPANDED”) and the top LDEVs in expanded volumes (“EXPANDED TOP”). This option cannot be used with the `-cmddev` and `-unallocated` options.

`[-unallocated]`

Displays all LDEVs that do not have any paths defined. This option cannot be used with the `-cmddev` and `-lu` options.

`[-emulation <emulation_type...>]`

Used with other options or alone to display only LDEVs with the specified emulation types. <emulation_type> can be specified as one value or a set of values (for example, OPEN-E or OPEN-E:OPEN-3). -emulation used without any arguments will generate an error.

`[-ldev <ldev...>]`

Displays only the specified LDEVs. <ldev> can be one value, a set of values, or a range of values (for example, A or 0:A:1A or 0-F). LDEVs must be specified in hexadecimal and are not case-sensitive. -ldev without any arguments will generate an error.

If the -ldev option is used along with -cu, the output will consist of the specified LDEVs in the specified CUs. If any of the specified LDEVs do not exist, then those LDEVs will not be displayed.

`[-cu <cu...>]`

Displays only the LDEVs in the specified CUs. <cu> can be one value, a set of values, or a range of values (for example, 0 or 0:2:3 or 0-4). CUs must be given in hexadecimal. -cu without any arguments will generate an error.

Example

list ldev without any options displays all the LDEVs defined in the disk array.

CU	LDEV
00	00
00	0A
00	0B
00	0C

list ldev with the -l option displays all the LDEVs defined in the disk array, along with the configuration information associated with each LDEV: CU, LDEV, Emulation, ExpansionStatus, Count, Raid, Paths, Capacity, Reserve, DeviceType, and CmdDevSecurity.

CU	LDEV	Emulation	ExpansionStatus	Count	Raid	Paths	Capacity
Reserve		DeviceType	CmdDevSecurity				
0	00	OPEN-E	EXPANDED_TOP	3	RAID1	2	2347
Normal		Lun	OFF				
0	01	OPEN-9	NOT_EXPANDED	3	RAID1	2	2347
NORMAL		CmdDev	ON				

[-cmddev]

Displays all the command devices and their security switch status. For example, CU, LDEV, DeviceType, and CmdDevSecurity.

CU	LDEV	DeviceType	CmdDevSecurity
0	08	CmdDev	ON
0	0F	CmdDev	OFF

[-lu]

Displays only the “NOT EXPANDED” and the “EXPANDED TOP” LDEVs and the count.

CU	LDEV	Count
0	08	2
0	0F	6

[-unallocated]

The format of the output will be the same as the default output for `list ldev`.

The `-l` option output will be the same as the default output for `list ldev` with the `-l` option.

[-emulation <emulation type...>]

The output will consist of only the LDEVs with the specified emulation types.

`list ldev -emulation OPEN-E:OPEN-3` displays:

CU	LDEV	Emulation
0	00	OPEN-E
0	01	OPEN-E
0	0A	OPEN-3
0	0B	OPEN-3

`list ldev -lu -emulation OPEN-E:OPEN-3` displays:

CU	LDEV	Count	Emulation
0	08	2	OPEN-E
0	0F	6	OPEN-3

```
list ldev -cu 0 -ldev a-f -emulation OPEN-E:OPEN-3
```

displays:

CU	LDEV	Emulation
0	00	OPEN-E
0	01	OPEN-E
0	0A	OPEN-3
0	0B	OPEN-E

[-ldev <ldev...>]

If a disk array has LDEVs A to F in CU 0, and LDEVs A, B, D and E in CU 1, then `list ldev -cu 0:1 -ldev A-F` will display:

CU	LDEV
0	A
0	B
0	D
0	E
0	F
0	A
1	B
1	D
1	E

In the previous example, LDEVs 1:C and 1:F are not displayed because they do not exist.

The format of the output will be the same as the default output for `list ldev` and `list ldev` with `-cmddev`, `-lu`, `-ldev`, or `-emulation`, if those options are used. The output will consist of only the specified LDEVs.

The `-l` option output depends on the options used. The format of the output will be the same as the output for `list ldev -l` and `list ldev -l` with `-cmddev`, `-lu`, `-ldev`, or `-emulation`, if those options are used. The output will consist of only the specified LDEVs.

[-cu <cu...>]

The format of the output will be the same as the default output for `list ldev` and `list ldev` with `-cmddev`, `-lu`, `-ldev`, `-emulation`, if those options are used. The output will consist of only the LDEVs in the specified CUs.

The `-l` option output depends on the options used. The format of the output will be the same as the output for `list ldev -l` and `list ldev -l` with `-cmddev`, `-lu`, `-ldev`, `-emulation`, if those options are used. The output will consist of only the LDEVs in the specified CUs.

list luse

This command displays LUSE configuration details. A LUSE volume consists of more than one LDEV. The LUSE volume can be expanded in either of two modes: *continuous*, where the LDEVs are consecutive, and *disperse*, where the LDEVs are non-consecutive. All LDEVs in a LUSE volume must be in the same CU. CU number and LDEV number are represented in hexadecimal.

Use `list luse` to query for the following information:

- **CU.** The CU number of the expanded volume. CU numbers are displayed in hexadecimal.
- **LDev.** The first LDEV number in the expanded volume. LDEV numbers are displayed in hexadecimal.
- **DeviceLDEVs.** The list of LDEVs, except the first LDEV, in the expanded volume.
- **TotalPaths.** The total number of paths that have been assigned to this LUSE.
- **Emulation.** The emulation type of this LUSE. The CLI displays only open volume emulations.
- **Reserved.** Specifies whether the LUSE is a reserved or normal volume. Reserved volumes are used by Auto LUN for data migration. The possible values for this column are “RESERVED” and “NORMAL.”
- **DeviceType.** Specifies whether the LUSE is a command device or not. The possible values are “CmdDev” and “LUN.”
- **Capacity (MB).** This specifies the size of the LUSE in megabytes.

Syntax

```
list luse [-cu <cu...>] [-ldev <ldev...>]  
[-cmd <cmdname>] [-category <cmdcategory>]
```

Arguments

`[-cu <cu...>]`

Displays only the LUSE volumes in the specified CUs. `<cu>` can be one value, a set of values, or a range of values (for example, 0 or 0:2:3 or 0-4). CUs must be given in hexadecimal. `-cu` without any arguments will generate an error.

[*-ldev <ldev...>*]

Displays only those LUSE volumes whose top LDEV matches any of the LDEVs specified. *<ldev>* can be one value, a set of values, or a range of values (for example, A or 0:A:1A or 0-F). LDEVs must be given in hexadecimal. *-ldev* without any arguments will generate an error.

[*-cmd <cmdname>*] or [*-category <cmdcategory>*]

Displays the output with the command name or category appended at the beginning of the record with no headers. When used with *-csv* and *-o*, the formatted output obtained can be used as input.

Example

`list luse` without any options displays all the expanded luns defined in the disk array.

CU	LDEV	DeviceLDEVs
0	00	01,02,03
0	0A	0B,0D,0E,0F

The *-l* option output displays all the expanded luns defined in the disk array along with the total number of paths to this LUSE, emulation type, reserved status, device type, and capacity.

CU	LDEV	DeviceLDEVs	TotalPaths	Emulation	Reserve	DeviceType
CAPACITY						
0	00	01,02,03	0	OPEN-E	RESERVE LUN	40
0	0A	0B,0D,0E,0F	2	OPEN-3	NORMAL	CmdDev
10						

[*-cu <cu...>*]

The format of the output will be the same as the output for `list luse`.

The *-l* option output is the same as for `list luse` with the *-l* option.

[*-ldev </dev...>*]

The format of the output will be the same as the default output for `list luse`.

The *-l* option output is the same as for `list luse` with the *-l* option.

If the *-ldev* option is used with the *-cu* option, the output will consist of all the specified LUSEs in the specified CUs.

list parity_group

This command displays parity group configurations. Each parity group in the disk array is identified by its unique parity group name and has the following information associated with it:

- **Domain.** The domain number of the parity group. For parity group 2-1, the domain number is “2.”
- **PG.** The PG number of the parity group. For Parity Group 2-1, the PG number is “1.”
- **Raid Type.** The RAID type of the parity group (for example, RAID5 (3D+1P)).
- **Drive Type.** The drive type of the parity group (for example, DKR2B-J18FC).
- **VDev.** A VDEV is a subdivision of a parity group and depends on the RAID level of the parity group and hard disk capacity.
- **Emulation.** The emulation type of the parity group. The CLI displays only open volume emulations. The display will show OPEN-* if a VDEV contains LDEVs that are a mix of emulation types.
- **TotalFreeSpace.** The total free space (in MB) in the VDEV that can be used for creating new custom LDEVs.
- **IndividualFreeSpace.** The individual free spaces (in MB) in the VDEV that can be used for creating new custom LDEVs. For example, if TotalFreeSpace is 5000, this attribute may specify two blocks of free space, for example 3000 and 2000.
- **InitializeCount.** The number of LDEV IDs that need to be given for an initialize operation. To perform an initialize operation for a particular VDEV, you need to know how many new normal LDEVs will be created. This value gives that number, which is the number of normal volumes deleted on that VDEV.

Syntax

```
list parity_group [-fs] [-initializecount] [-emulation]  
[-domain <domain...>] [-pg <PG...>] [-vdev <vdev...>]
```

Arguments

[-fs]

Displays domains, PGs, VDEVs, and individual free spaces.

[-initializecount]

Displays domains, PGs, VDEVs, and their respective initialize counts.

[-emulation]

Displays domains, PGs, VDEVs, and emulation types.

[-domain <domain...>]

The output for this will be same as the output of list parity_group. The only difference that it will display information only for specified domains.

[-pg <PG...>]

The output will be same as the output of list parity_group (default), with the only difference being that it will display information only for the specified PGs.

[-vdev <vdev...>]

The output for this command is the same as the output of list parity_group (default), with the only difference being that it will display information for the only specified VDEVs.

Example

list parity_group without any options displays all domains, parity groups, and VDEVs.

Domain	PG	VDev
1	1	1
1	1	2
1	2	1
1	3	1

The `-l` option output displays all domains, parity groups, and the information associated with each parity group.

Domain	PG	Vdev	EmulationType	RaidType	DriveType
TotalFreeSpace	IndividualFreeSpace		InitializeCount		
1	1	1	OPEN-*	RAID5(3D+1P)	DKR2B-J18FC
5000	3000		3		
1	1	1	OPEN-*	RAID5(3D+1P)	DKR2B-J18FC
5000	2000		3		
1	1	2	OPEN-3	RAID5(3D+1P)	DKR2B-J18FC
3000	3000		3		
1	2	1	OPEN-8	RAID1(2D+2P)	DKR2B-J18FC
700	700		0		
1	3	1	OPEN-9	RAID5(3D+1P)	DKR2B-J18FC
500	500		0		

[-fs]

Domain	PG	VDev	IndividualFreeSpace
1	1	1	3000
1	1	1	2000
1	1	2	3000
1	2	1	700
1	3	1	500

The `-l` option output is the same as for `list parity_group`.

[-initializecount]

Domain	PG	VDev	InitializeCount
1	1	1	3
1	1	2	3
1	2	1	0
1	3	1	0

The `-l` option output is the same as for `list parity_group -l`.

When `-initializecount` is used with `-fs` option, this display includes domains, PGs, VDEVs, their respective initialize count, and the individual free space values.

Domain	PG	Vdev	InitializeCount	IndividualFreeSpaces
1	1	1	3	3000
1	1	1	3	2000
1	1	2	3	3000
1	2	1	0	700
1	3	1	0	500

[-emulation]

Domain	PG	VDev	EmulationType
1	1	1	OPEN-*
1	1	1	OPEN-*
1	1	2	OPEN-3
1	2	1	OPEN-8
1	3	1	OPEN-9

The `-l` option output is the same as for `list parity_group -l`.

[-domain <domain...>]

```
list parity_group -domain 1
```

Domain	PG	VDev
1	1	1
1	1	2
1	2	1
1	3	1

The `-l` option output is the same as for `list parity_group`. Only information for the specified domain will be displayed.

The `-fs` option output is the same as for `list parity_group -fs`. Only information for the specified domain will be displayed.

The `-initializecount` option output is the same as for `list parity_group -initializecount`. Only information for the specified domain will be displayed.

[-pg <PG...>]

```
list parity_group -pg 1
```

Domain	PG	VDev
1	1	1
1	1	2

When `-pg` is used with the `-l`, `-fs`, `-initializcount`, or `-domain` options, the output will be as previously described. Only information for the specified PG will be displayed.

[-vdev <vdev...>]

```
list parity_group -vdev 1
```

Domain	PG	VDev
1	1	1
1	2	1
1	3	1

When `-vdev` is used with the `-l`, `-fs`, `-initializcount`, `-domain`, or `-pg` options, the output will be as previously described. Only information for the specified VDEV will be displayed.

list usable_cus

This command lists the usable CUs present in the disk array. This is useful when creating custom LDEVs and initializing parity groups CLI commands.

`list usable_cus` has the following information associated with it:

- **CUID.** This specifies the CU number. For the XP128/XP1024, the CU numbers range between 0 to 31. CU numbers are displayed in hexadecimal.

Syntax

```
list usable_cus
```

Example

`list usable_cus` displays all the CU IDs that can be used for configuration in the disk array.

```
CUID
0
1
2
3
```

The `-l` and `-col` options cannot be used with this command.

list vsc

The `list vsc` command displays the volume size configuration details for normal and custom volumes. Each LDEV is identified by the domain, parity group, VDEV, CU, and LDEV.

`list vsc` has the following information associated with it:

- **Domain.** The domain to which an LDEV's parity group belongs. The XP128/XP1024 can have up to 12 domains.
- **PG.** The parity group number to which an LDEV belongs. The XP128/XP1024 have 1-32 parity groups per domain.
- **Vdev.** A VDEV is a subdivision of a parity group and depends on the RAID level of the parity group and the hard disk capacity. The XP128/XP1024 can have 1-16 VDEVs per PG.
- **CU.** The CU to which the LDEV belongs. In the XP128/XP1024, the CU number range is 0-31. CUs are displayed in hexadecimal format.
- **LDEV.** The LDEV number. Each CU can have LDEVs in the range from 0 to 255. LDEVs are displayed in hexadecimal format.
- **Emulation.** The emulation type of the LDEV. The CLI displays only open volume emulations. For LUSE volumes, the emulation type will be displayed as OPEN-X * n, where n represents the total number of LDEVs that comprise the LUSE volume.
- **Capacit(MB).** Capacity. The size of the LDEV in megabytes.
- **RAID.** The RAID level of the parity group to which an LDEV belongs. The supported RAID levels are RAID1 and RAID5.
- **LDevType.** The kind of LDEV (custom or normal).

Syntax

```
list vsc [[-domain <domain...>] [-pg <PG...>]  
[-vdev <vdev...>] [-cv | -nv] [-deletable]] | [-unused]
```

Arguments

`[-domain <domain...>]`

The output displays all LDEVs defined in the disk array for the given domain numbers.

`[-pg <PG...>]`

The output is limited to the given parity group numbers.

`[-vdev <vdev...>]`

The output is limited to the given VDEV numbers.

`[-cv]`

The output is limited to the custom volumes present in the disk array.

`[-nv]`

The output is limited to the normal volumes present in the disk array.

`[-deletable]`

Displays all LDEVs that can be deleted using the `delete ldevs` command. The LDEV must not have a path, be a part of a LUSE volume, be a command device or be an Auto LUN reserved volume. The output will be same as the default output for the `list vsc` command.

`[-unused]`

Displays the LDEVs not present in the disk array. This information can be used to create new LDEVs. This command can be useful when used with the `create custom_ldevs` command, where you must supply CU:LDEV values for new LDEVs to be created. The default output displays all the LDEV numbers that are not present in the disk array.

Example

`list vsc` without any options displays all the custom and normal defined in the disk array.

Domain	PG	Vdev	CU	LDEV	LDevType
1	1	1	00	00	Custom
1	1	1	00	0A	Custom
1	1	1	00	0B	Custom
1	1	1	00	0C	Normal

The `-l` option displays all the custom and normal volumes defined in the disk array along with the association configuration information.

Domain	PG	Vdev	CU	LDEV	Emulation	Capacit(MB)	RAID	LDevType
1	1	1	0	00	OPEN-E	2347	RAID1	Normal
1	1	1	0	01	OPEN-9*3	2347	RAID5	Custom
1	1	1	0	0A	OPEN-3*5	2347	RAID5	Custom
1	1	1	0	0B	OPEN-E	2347	RAID5	Normal

[-unused]

```
list vsc -unused
```

CU	LDev
0	f0
0	f1
0	f2
0	f3
0	f4
0	f5
0	f6
1	ff
2	f0
2	ff

DKC, DKU, and TRAP Commands

This section describes the following commands:

- [list acp_status](#) or [list dka_status](#) (page 133)
- [list chip_status](#) or [list cha_status](#) (page 135)
- [list chp_status](#) (page 137)
- [list cm_status](#) (page 138)
- [list csw_status](#) (page 139)
- [list dkc_status](#) (page 140)
- [list dkp_status](#) (page 141)
- [list dku_status](#) (page 142)
- [list drr_status](#) (page 143)
- [list pg_status](#) (page 144)
- [list sm_status](#) (page 147)
- [list traps](#) (page 148)

list acp_status or list dka_status

This command displays array control processor (ACP) and disk adapter (DKA) details. The terms ACP and DKA refer to the same component. You can also provide ACP/DKA names to view the status of specific ACPs/DKAs.

Syntax

```
list acp_status  
[-acp <acpname...> | -s <statustype...>]  
or  
list dka_status  
[-dka <dkaname...> | -s <statustype...>]
```

Arguments

[-acp <acpname...>] or [-dka <dkaname...>]

Displays the status of the specified ACPs/DKAs. <acpname> or <dkaname> can be one value, a set of values, or a range of values (for example, 1C or 1C:1D or 1C-1E).

[-s <statustype...>]

Displays only those ACPs/DKAs with the specified status type. <statustype> can be one value or a set of values (for example, acute or acute:service). Values are normal, acute, service, moderate, and serious.

Example

```
Cluster# DKA# Name Status  
1 1 DKA-1B Normal  
1 2 DKA-1C Service  
1 3 DKA-1D Acute  
1 4 DKA-1E Serious
```

-l Option

The `-l` option lists a detailed error status for the ACPs/DKAs with errors.

```
Component Status REFCODE Category Error
DKA-1C Moderate 3D9D10 DKA Processor Error Injustice DC Voltage
Control
DKA-1D Moderate 3D9E20 DKA Processor Error Injustice CE MODE
```

list chip_status or list cha_status

This command displays channel host interface processor (CHIP) and channel adapter (CHA) status details. The terms CHIP and CHA refer to the same component. You can also provide CHIP/CHA names to view the status of specific CHIPS/CHAs.

Syntax

```
list chip_status  
[-chip <chipname...> | -s <statustype...>]  
or  
list cha_status  
[-cha <chaname...> | -s <statustype...>]
```

Arguments

`[-chip <chipname...>] or [-cha <chaname...>]`

Displays the status of the specified `<chipname>` or `<chaname>`. It can be one value, a set of values, or a range of values (for example, 1P or 1P:1Q or 1P-1S).

`[-s <statustype...>]`

Displays only those CHIPS/CHAs with the specified status types. `<statustype>` can be one value or a set of values (for example, acute or acute:service). Values are normal, acute, service, moderate, and serious.

Example

```
Cluster# CHA# Name Status  
1 1 CHA-1P Normal  
1 2 CHA-1Q Service  
1 3 CHA-1R Acute  
1 3 CHA-1S Serious
```

-l Option

The `-l` option displays detailed error status for the CHIP/CHA.

```
Component Status REFCODE Category Error
CHA-1P Moderate 399D00 CHA Processor Error Injustice DC Voltage
Control
CHA-1Q Moderate 399E10 CHA Processor Error Injustice CE MODE
CHA-1R Normal
CHA-1S Normal
```

list chp_status

This command displays channel processor (CHP) details. You can also provide chip names to view the status of specific CHPs.

Syntax

```
list chp_status  
[-chp <chpname...> | -s <statustype...>]
```

Arguments

`[-chp <chpname...>]`

Displays the status of the specified CHPs. *<chpname>* can be one value, a set of values, or a range of values (for example, 001P or 001P:001Q or 001P-001S).

`[-s <statustype...>]`

Displays only those CHPs with the specified status types. *<statustype>* can be one value or a set of values (for example, acute or acute:service). Values are normal, acute, service, moderate, and serious.

Example

```
Cluster# CHA# CHP# Name Status  
1 1 1 CHP00-1P Normal  
1 2 2 CHP00-1Q Service  
1 3 3 CHP00-1R Acute  
1 4 4 CHP00-1S Serious
```

-l Option

The `-l` option lists a detailed error status for the CHPs with errors.

```
Component Status REFCODE Category Error  
CHP02-1P Service 307102 CHA Processor Error CHK1B threshold over  
CHP11-1Q Serious 309011 CHA Processor Error LDEV blockade(Effect  
of Processor blockade)  
CHP00-1R Normal
```

list cm_status

This command displays cache memory (CM) details. You can also provide cache memory names to view the status of specific CMs.

Syntax

```
list cm_status [-cm <cmname...> | -s <statustype...>]
```

Arguments

`[-cm <cmname...>]`

Displays the status of the specified CMs. *<cmname>* can be one value or a set of values (for example, 1T or 1T:1U).

`[-s <statustype...>]`

Displays only those CMs with the specified status types. *<statustype>* can be one value or a set of values (for example, acute or acute:service). Values are normal, acute, service, moderate, and serious.

Example

```
Cluster# Cache# Name Status
1 0 Cache-1T Normal
```

-l Option

The `-l` option lists a detailed error status for the CMs with errors.

```
Component Status REFCODE Category Error
CACHE-1U Moderate FFF602 Cache Error Injustice DC voltage
control
CACHE-2F Moderate FFF703 Cache Error Injustice CE MODE
CACHE-1T Normal
```

list csw_status

This command displays cache switch (CSW) details. You can also provide CSW names to view the status of specific CSWs.

Syntax

```
list csw_status  
[-csw <cswname...> | -s <statustype...>]
```

Arguments

`[-csw <cswname...>]`

Displays the status of the specified CSWs. *<cswname>* can be one value or a set of values (for example, 1N or 1A:1Q).

`[-s <statustype...>]`

Displays only those CSWs with the specified status types. *<statustype>* can be one value or a set of values (for example, acute or acute:service). Values are normal, acute, service, moderate, and serious.

Example

```
Cluster# CSW# Name Status  
1 0 CSW-1N Normal  
1 0 CSW-1P Service
```

-l Option

The `-l` option lists a detailed error status for the CSWs with errors.

```
Component Status REFCODE Category Error  
CSW-1N Moderate FF2002 CSW error Injustice DC voltage control  
CSW-1A Moderate FF2100 CSW error Injustice CE MODE  
CSW-1P Normal
```

list dkc_status

This command displays the disk controller (DKC) components and their overall status.

Syntax

```
list dkc_status
```

Example

```
Component, Status
Processor, Normal
CSW, Serious
Cache, Moderate
Shared Memory, Normal
Power Supply, Normal
Battery, Normal
Fan, Normal
Environment, Serious
```

list dkp_status

This command displays disk processor (DKP) details. You can also provide DKP names to view the status of specific DKPs.

Syntax

```
list dkp_status [-dkp <dkpname...> |  
-s <statustype...>]
```

Arguments

`[-dkp <dkpname...>]`

Displays the status of the specified DKPs. *<dkpname>* can be one value, a set of values, or a range of values (for example, 801C or 801C:801D or 801C-801E).

`[-s <statustype...>]`

Displays only those DKPs with the specified status types. *<statustype>* can be one value or a set of values (for example, acute or acute:service). Values are normal, acute, service, moderate, and serious.

Example

```
Cluster# DKA# DKP# Name Status  
1 1 1 DKP80-1B Normal  
1 2 2 DKP80-1C Service  
1 3 3 DKP80-1D Acute  
1 4 4 DKP80-1E Serious
```

-l Option

The `-l` option lists a detailed error status for the DKPs with errors.

```
Component Status REFCODE Category Error  
DKP81-1B Moderate 3D9B01 DKA Processor Error SMA slave error  
DKPA1-1D Moderate 3D9C21 DKA Processor Error MPA slave error  
DKP80-1E Normal
```

list dku_status

This command displays the disk cabinet unit (DKU) component details and status.

Syntax

```
list dku_status
```

Example

```
Component, Status  
Power Supply, Normal  
Fan, Normal  
Environment, Serious  
Drive, Acute
```

list drr_status

This command displays disk recovery and regeneration (DRR) details. You can also provide DRR names to view the status of specific DRRs.

Syntax

```
list drr_status [-drr <drrname...> |  
-s <statustype...>]
```

Arguments

`[-drr <drrname...>]`

Displays the status of the specified DRRs. *<drrname>* can be one value, a set of values, or a range of values (for example, 801B or 801B:801C or 801D-801E).

`[-s <statustype...>]`

Displays only those DRRs with the specified status types. *<statustype>* can be one value or a set of values (for example, acute or acute:service). Values are normal, acute, service, moderate, and serious.

Example

```
Cluster# DKA# DRR# Name Status  
1 1 1 DRR80-1B Normal  
1 2 2 DRR80-1C Service  
1 3 3 DRR80-1D Acute  
1 4 4 DRR80-1E Serious
```

-l Option

The `-l` option lists a detailed error status for the DRRs with errors.

```
Component Status REFCODE Category Error  
DRR81-1B Moderate 3D9B01 DKA Processor Error SMA slave error  
DRRA1-1D Moderate 3D9C21 DKA Processor Error MPA slave error  
DRR80-1E Normal
```

list pg_status

This command displays parity group (PG) status details.

Syntax

```
list pg_status [-s <statustype...>] [-pg <pgname...> |  
-domain <domain...> | -dku <dku...>]  
[-disk | -ldev | -map]
```

Arguments

`[-s <statustype...>]`

Displays only parity groups with the specified status types. *<statustype>* can be one value or a set of values (for example, acute or acute:service). Values are normal, acute, service, moderate, and serious.

`[-pg <pgname...>]`

Displays only the specified parity groups (for example, 1-1 or 1-2 or 1-1:1-2).

`[-domain <domain...>]`

Displays only the parity groups in the specified domains (for example, 1 or 1:3).

`[-dku <dku...>]`

Displays only the parity groups in the specified DKUs (for example, R1 or R3 or R1:R3).

`[-disk]`

Displays physical disk status details.

`[-ldev]`

Displays logical device (LDEV) status details.

`[-map]`

Displays the parity group status details for connected parity groups.

Example

```
DKU# FB4# PG# Name Size(MB) Status
1 1 1 1-1 20 Normal
1 1 2 1-2 30 Service
```

[-map]

```
DKU FB4# PG# Name Size(MB)Status ConnectedPGs
R1 1 1 1-1 1295266 Normal 1-1;1-2
R1 1 3 1-3 545142 Normal
R1 1 4 1-4 684072 Service
```

[-disk]

```
DKU# PG Disk Status
1 1-1 R100 Normal
1 1-2 R200 Service
```

[-ldev]

```
DKU# PG Ldev Size(MB) Emulation Status
1 1-1 0:00 20 OPEN-3 Normal
1 1-2 0:20 30 OPEN-9 Service
```

[-l]

```
DKU# PG Component Status REFCODE Category Error
R1 1-1 R120 Service EF2200 Drive error (normal R/W) Drive
blockade (Effect of Dynamic sparing normal end)
R1 1-1 R130 Serious 43C300 Drive error (normal R/W) Drive
blockade (media)
R1 1-2 * Normal
R1 1-3 * Normal
```

“*” indicates that all the components in that parity group are normal. If any of the components in a parity group have errors, then only those component names are specified.

Example 1

```
list pg_status -l
```

```
DKU FB4 PG Status REFCODE Category Error
R1 1 1 Service EF2200 Drive error (normal R/W) Drive blockade
(Effect of Dynamic sparing normal end)
R1 1 1 Serious 43C300 Drive error (normal R/W) Drive blockade
(media)
```

Example 2

```
list pg_status -l -disk
```

```
DKU PG Disk Status REFCODE Category Error
R1 1-1 R120 Service EF2200 Drive error (normal R/W) Drive
blockade (Effect of Dynamic sparing normal end)
R1 1-1 R130 Serious 43C300 Drive error (normal R/W) Drive
blockade (media)
```

Example 3

```
list pg_status -l -ldev
```

```
DKU PG Ldev Status REFCODE Category Error
R1 1-1 0:05 Service D32005 Pair volume status error HODM for
this volume was deleted (Operation from an SVP/remote console
R1 1-1 0:9 Service D31009 Pair volume status error HODM
completed the migration copy for this volume
```

list sm_status

This command displays shared memory (SM) details. You can also provide shared memory names to view the status of specific SMs.

Syntax

```
list sm_status [-sm <smname...> | -s <statustype...>]
```

Arguments

`[-sm <smname...>]`

Displays the status of the specified SMs. *<smname>* can be one value or a range of values (for example, A or A:B).

`[-s <statustype...>]`

Displays only those SMs with the specified status types. *<statustype>* can be one value or a set of values (for example, acute or acute:service). Values are normal, acute, service, moderate, and serious.

Example

```
CSW#,Name,Status
0,Side-A,Normal
```

-l Option

The `-l` option lists a detailed error status for the SMs with errors.

```
Component Status REFCODE Category Error
Side-B Service FFEC01 Shared Memory Error CHK3 threshold over
Side-A Normal
```

list traps

This command displays all the events from the disk array that have resulted in an SNMP trap.

Syntax

```
list traps [-n <componentname...>] [-r <refcode...>]  
[-s <statustype...>] [-c <category>]
```

Arguments

`[-n <componentname...>]`

Lists traps for the specified components. *<componentname>* can be one value or a set of values (for example, CHA-1P or CHA-1P:DRR80-1D).

`[-r <refcode...>]`

Lists traps with the specified reference codes. *<refcode>* can be one value or a set of values (for example, BF1211 or BF1211-FFF01C).

`[-s <statustype...>]`

Lists traps with the specified status types. *<statustype>* can be one value or a set of values (for example, acute or acute:service). Values are normal, acute, service, moderate, and serious.

`[-c <category>]`

Lists traps in the specified category. *<category>* must be one value (for example, CHA Processor Error).

Example

```
Component,STATUS,REFCODE,CATEGORY,ERROR,Date,Time
CHA-1P, Moderate,399D00,CHA Processor Error, Injustice DC
Voltage Control,10/03/2001,04:95
CHA-1Q, Moderate,399E10,CHA Processor Error, Injustice CE MODE,
10/03/2001,04:95
R120,Service EF2200,Drive error (normal R/W), Drive Blockade
(Effect of Dynamic sparing normal end), 10/03/2001,04:95
DRRA1-1D,Moderate,3D9C21,DKA Processor Error,MPA slave error,
10/03/2001,04:95
CHA-1Q,Moderate,399E10,CHA Processor Error, Injustice CE MODE,
10/03/2001,04:95
```


CLI Commands for the XP48/XP256/XP512

4

This chapter contains CLI commands for LUN and volume management specifically for the XP48/XP256/XP512. This chapter also contains additional CLI commands to list information about DKC and DKU components, and SNMP traps.

There are some commands available for the XP48 or XP512 that are not available for the XP256. Each command description clearly specifies when a command is not supported for the XP256.

LUN MANAGEMENT Commands

This section describes the following commands:

- [add lun_to_lun_group](#) (page 154)
- [add security_to_lun](#) (page 155)
- [add security_to_lun_group](#) (page 156)
- [add wwn](#) (page 157)
- [add wwn_to_wwn_group](#) (page 158)
- [create lun](#) (page 159)
- [create lun_group](#) (page 160)
- [create wwn_group](#) (page 161)
- [delete lun](#) (page 162)
- [delete lun_from_lun_group](#) (page 163)
- [delete lun_group](#) (page 164)
- [delete lun_security](#) (page 165)
- [delete security_from_lun](#) (page 166)
- [delete security_from_lun_group](#) (page 167)
- [delete wwn](#) (page 168)
- [delete wwn_from_wwn_group](#) (page 169)
- [delete wwn_group](#) (page 170)
- [list cmd_device](#) (page 171)
- [list count_for_volume_initialize](#) (page 172)
- [list free_ldev](#) (page 173)
- [list lun](#) (page 174)
- [list lun_group](#) (page 175)
- [list lun_group_security](#) (page 176)
- [list lun_security](#) (page 177)
- [list pg_freespace_info](#) (page 178)
- [list pg_volume_info](#) (page 179)
- [list port](#) (page 180)

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- [list security_switch](#) (page 181)
 - [list wwn](#) (page 182)
 - [list wwn_group](#) (page 183)
 - [modify cmd_device](#) (page 184)
 - [modify fibre_address](#) (page 185)
 - [modify fibre_topology](#) (page 186)
 - [modify host_mode](#) (page 187)
 - [modify lun_group_nickname](#) (page 189)
 - [modify security_switch](#) (page 190)
 - [modify wwn](#) (page 191)
 - [modify wwn_group_nickname](#) (page 192)
 - [modify wwn_nickname](#) (page 193)
 - [remove wwn_group](#) (page 194)

add lun_to_lun_group

This command appends LUNs (or paths) to an existing LUN group. LUNs must have the same security defined.

Syntax

```
add lun_to_lun_group <portname>, <lun_group_nickname>,  
<lun_id...>
```

Arguments

<portname>

The port to which the the LUNs are to be added. Port names are not case-sensitive.

<lun_group_nickname>

The LUN group nickname of the LUN group to which the path is to be added.

<lun_id...>

The LUN ID of the path to be added to the LUN group. LUN IDs must be expressed in hexadecimal.

Example

```
add lun_to_lun_group CL1-A, nick1, 0f, 2f
```

add security_to_lun

This command assigns security to a LUN and associates that LUN with one or more WWNs or WWN groups. Only the host WWN or WWN group associated with this LUN can access this LUN.

Syntax

```
add security_to_lun <portname>, <lun_id>, <wwn>,  
<wwn_group> [, <wwn2>, <wwn_group2>...]
```

Arguments

<portname>

The port from which the LUN has been created. Port names are not case-sensitive.

<lun_id>

The LUN ID of the LUN to be associated. LUNs must be given in hexadecimal.

<wwn>

The WWN of the LUN to be associated.

<wwn_group>

The WWN group of the LUN to be associated.

Example

```
add security_to_lun CL1-A, 00, wwn1, wwnGrp1
```

add security_to_lun_group

This command assigns security to a LUN group and associates that LUN group with one or more WWNs or WWN groups. Only the host WWN or WWN group associated with this LUN group can access this LUN group.

Syntax

```
add security_to_lun_group <portname>,  
<lun_group_nickname>, <wwn>, <wwn_group>  
[, <wwn2>, <wwn_group2>...]
```

Arguments

<portname>

The port from which the LUN group has been created. Port names are not case-sensitive.

<lun_group_nickname>

The LUN group nickname of the LUN group to be associated.

<wwn>

The WWN of the LUN group.

<wwn_group>

The WWN group of the LUN group.

Example

```
add security_to_lun_group CL1-A, lunGrp1, wwn1, wwnGrp1
```

add wwn

This command adds one or more WWNs to a port. Any number of WWNs can be given in the same command.

Syntax

```
add wwn <portname>, <wwn>, <wwn_nickname>  
[,<wwn2>, <wwn_nickname2>...]
```

Arguments

<portname>

The port to which the WWNs are to be added. Port names are not case-sensitive.

<wwn>

The WWN to be added.

<wwn_nickname>

The WWN nickname to be used for a WWN.

Example

```
add wwn CL1-C, 0123456789abcdef, wwn0, aaaaaaaaaaaaaaaaaa, wwn1
```

add wwn_to_wwn_group

This command adds WWNs to an existing WWN group. All the WWNs in a group must have the same security information.

Syntax

```
add wwn_to_wwn_group <portname>, <wwn_group_nickname>,  
<wwn...>
```

Arguments

<portname>

The port of the WWN group to which the WWNs are to be added. Port names are not case-sensitive.

<wwn_group_nickname>

The WWN group nickname of the WWN group.

<wwn...>

The WWN to be added.

Example

```
add wwn_to_wwn_group CL1-C, wwnGrp1, wwn0, wwn1
```

create lun

This command creates a LUN (or path). This command will execute successfully if no path from the port to the LDEV and no other LUN is assigned for the port, SCSI ID, and LUN ID. This command allows for the addition of multiple paths in the array in one operation. Each port can have maximum of 256 paths.

A range can be given for either ports or LUN IDs and LDEVs, but not both. Specify range values within square brackets [].

Syntax

```
create lun <portname>, <scsi_id>, <lun_id>, <cu>,  
<ldev>
```

Arguments

<portname>

The port from which the path has to be created. Port names are not case-sensitive.

<scsi_id>

The SCSI ID to assign to the path being created. SCSI IDs are represented in hexadecimal.

<lun_id>

The LUN ID to assign to the path being created. LUN IDs are represented in hexadecimal.

<cu>

The CUs to which paths have to be created. CUs must be specified in hexadecimal.

<ldev>

The LDEVs to which paths have to be created. LDEVs must be specified in hexadecimal.

Example

```
create lun CL1-A, 0f, 10, 0, 1  
create lun [CL1-A-CL1-E], 0f, 23, 0, 2b  
create lun CL1-A, 0f, [24-2f], 0, [2b-36]
```

create lun_group

This command creates a LUN group. If the LUN group already exists, the operation will fail.

Syntax

```
create lun_group <portname>, <lun_group_nickname>,  
<lun_id...>
```

Arguments

<portname>

The port from which the LUN group has to be created. Port names are not case-sensitive.

<lun_group_nickname>

The LUN group nickname to be created.

<lun_id...>

The LUN ID to assign to the group being created. LUN IDs must be expressed in hexadecimal.

Example

```
create lun_group CL1-A, Nick1, 0f, 2f  
create lun_group CL1-A, Nick1, 0f, [a-f]
```

create wwn_group

This command creates a WWN group with nickname and associates WWNs. All WWNs to be in the group must have same security information.

Syntax

```
create wwn_group <portname>, <wwn_group_nickname>,  
<wwn1>, <wwn2>, [<wwn3>...]
```

Arguments

<portname>

The port to which the WWN group is to be created. Port names are not case-sensitive.

<wwn_group_nickname>

The WWN group nickname to assign to the WWN group.

<wwn1>, *<wwn2>*

The WWNs to be added. There should be at least two WWNs.

Example

```
create wwn_group CL1-C,wwnGrp1,wwn0,wwn1
```

delete lun

This command deletes a specified LUN (or path).

A range can be given for either ports or LUN IDs and LDEVs, but not both. Specify range values within square brackets [].

Syntax

```
delete lun <portname>, <scsiID>, <lunID>, <cu>, <ldev>
```

Arguments

<portname>

The port of the path to be deleted. Port names are not case-sensitive.

<scsiID>

The SCSI ID of the path to be deleted. SCSI IDs must be expressed in hexadecimal.

<lunID>

The LUN ID of the path to be deleted. LUN IDs must be expressed in hexadecimal.

<cu>

The CU number of the path to be deleted. CU numbers are specified in hexadecimal.

<ldev>

The LDEV number of the path to be deleted. LDEVs must be given in hexadecimal.

Example

```
delete lun CL1-A, 0f, 10, 0, 01
delete lun [CL1-A-CL1-E], 0f, 23, 0, 2b
delete lun CL1-A, 0f, [24-2f], 0, [2b-36]
```

delete lun_from_lun_group

This command deletes a LUN (or path) from a LUN group. If there is only one LUN in the LUN group, the LUN group is also deleted.

Syntax

```
delete lun_from_lun_group <portname>,  
<lun_group_nickname>, <lun_id...>
```

Arguments

<portname>

The port of the LUN group from which the path is to be deleted. Port names are not case-sensitive.

<lun_group_nickname>

The LUN group nickname of the LUN group from which the path is to be deleted.

<lun_id...>

The LUN ID of the path to be deleted from the LUN group. LUNs must be given in hexadecimal.

Example

```
delete lun_from_lun_group CL1-A, Nick1, 0f, 2f
```

delete lun_group

This command deletes a LUN group.

Syntax

```
delete lun_group <portname>, <lun_group_nickname>
```

Arguments

<portname>

The port of the path to be deleted. Port names are not case-sensitive.

<lun_group_nickname>

The LUN group nickname that is to be deleted.

Example

```
delete lun_group CL1-A, nick1
```

delete lun_security

This command deletes security information for a LUN (or path).

Syntax

```
delete lun_security <portname>, <lun_id>
```

Arguments

<portname>

The port of the path whose security information is to be deleted. Port names are not case-sensitive.

<lun_id>

The LUN ID of the path whose security information is to be deleted. LUNs must be given in hexadecimal.

Example

```
delete lun_security CL1-C, 0f
```

delete security_from_lun

This command disassociates a WWN/WWN group specified in the command from the LUN. This is opposite of the `add security_to_lun` command (see page 155).

Syntax

```
delete security_from_lun <portname>, <lun_id>,  
<wwn/wwnGroup...>
```

Arguments

<portname>

The port of the path to be deleted. Port names are not case-sensitive.

<lun_id>

The LUN ID of the LUN whose security is to be deleted. LUNs must be given in hexadecimal.

<wwn/wwnGroup...>

The WWN or WWN group nickname to be disassociated from the LUN

Example

```
delete security_from_lun CL1-C, 0f, wwn1
```

delete security_from_lun_group

This command deletes security from a LUN group. You must specify at least one WWN or WWN group nickname. This is opposite of the add security_to_lun_group command (see page 156).

Syntax

```
delete security_from_lun_group <portname>,  
<lun_group_name>, <wwn/wwnGroup...>
```

Arguments

<portname>

The port of the LUN group whose security is to be deleted. Port names are not case-sensitive.

<lun_group_name>

The LUN group whose security is to be deleted.

<wwn/wwnGroup...>

The WWN or WWN group nickname to be disassociated from the LUN group.

Example

```
delete security_from_lun_group CL1-C, lunGrp1, wwn1, wwng1
```

delete wwn

This command deletes the WWN for a port.

Syntax

```
delete wwn <portname>, <wwn_nickname>
```

Arguments

<portname>

The port from which the WWN is to be deleted. Port names are not case-sensitive.

<wwn_nickname>

The WWN nickname to be deleted.

Example

```
delete wwn CL1-C, wwn1
```

delete wwn_from_wwn_group

This command deletes one or more specified WWNs from a particular WWN group. This command does not allow you to delete WWNs from a WWN group that have less than two WWNs in the group.

Syntax

```
delete wwn_from_wwn_group <portname>,  
<wwn_group_nickname>, <wwn...>
```

Arguments

<portname>

The port of the WWN group from which the WWN is to be deleted. Port names are not case-sensitive.

<wwn_group_nickname>

The WWN group nickname of the WWN group.

<wwn...>

The WWN to be deleted.

Example

```
delete wwn_from_wwn_group CL1-A, wwnGrp1, wwn1, wwn2
```

delete wwn_group

This command deletes a WWN group. You cannot delete the WWNs defined in the group with this command. To delete the WWNs as well, also use the `remove wwn_group` command (see page 194).

Syntax

```
delete wwn_group <portname>, <wwnGrpNickname>
```

Arguments

<portname>

The port from which the WWN group is to be deleted. Port names are not case-sensitive.

<wwnGrpNickname>

The WWN group nickname to be deleted.

Example

```
delete wwn_group CL1-C, wwnGrp1
```

list cmd_device

This command lists the command devices on the disk array. If there are no command devices, no values are displayed.

Syntax

```
list cmd_device
```

Output

This command displays the following information:

- CU
- LDEV

list count_for_volume_initialize

This command lists the number of normal volumes deleted in the disk array that can be used for volume initialize operation.

This command is not supported for the XP256.

Syntax

```
list count_for_volume_initialize [-pg <paritygroup>]
```

Arguments

`[-pg <paritygroup>]`

If the `-pg` option is provided, then the output shows only information for the specified parity group.

Output

This command displays the following information:

- Parity group
- Count

list free_ldev

This command lists the free or unallocated LDEVs in the disk array. Free/unallocated LDEVs are LDEVs that don't have any paths assigned to them yet.

Syntax

```
list free_ldev [-cu <cu>]
```

Arguments

`[-cu <cu>]`

If the `-cu` option is provided, then the output shows all paths relevant to that CU. CUs must be given in hexadecimal.

Output

This command displays the following information:

- CU
- LDEV

list lun

This command displays path related configuration details. This command also lists paths belonging to a particular port.

Syntax

```
list lun [-port <portname>]
```

Arguments

`[-port <portname>]`

If the `-port` option is provided, then the output shows only paths for the specified port name. Port names are not case-sensitive.

Output

This command displays the following information:

- Port name
- SCSI ID
- LUN ID
- CU
- LDEV
- Capacity (MB)

LUN IDs, CUs, and LDEVs are provided in hexadecimal.

list lun_group

This command lists LUN group information for the disk array.

Syntax

```
list lun_group [-port <portname> [-group <groupname>]]
```

Arguments

```
[-port <portname> [-group <groupname>]]
```

If the -port option is provided, you can also use the -group option. The output shows only LUNs for the specified port and group name. Port names are not case-sensitive.

Output

This command displays the following information:

- Port name
- LUN group name
- LUNs

list lun_group_security

This command lists LUN group security information for the disk array.

Syntax

```
list lun_group_security [-port <portname>
                        [-group <groupname>]]
```

Arguments

```
[-port <portname> [-group <groupname>]]
```

If the -port option is provided, you can also use the -group option. The output shows only the LUN security information for the specified port and group name. Port names are not case-sensitive.

Output

This command displays the following information:

- Port name
- LUN group name
- WWNs
- WWN group names

list lun_security

This command lists LUN security information for the disk array.

Syntax

```
list lun_security [-port <portname>]
```

Arguments

`[-port <portname>]`

If the `-port` option is provided, then the output shows only LUN security information for the specified port name. Port names are not case-sensitive.

Output

This command displays the following information:

- Port name
- LUN ID
- WWNs
- WWN groups

list pg_freespace_info

This command lists the free space available in the parity groups.

This command is not supported for the XP256.

Syntax

```
list pg_freespace_info [-pg <paritygroup>]
```

Arguments

`[-pg <paritygroup>]`

If the `-pg` option is provided, then the output shows only information for the specified parity group.

Output

This command displays the following information:

- Parity group
- Free space

list pg_volume_info

This command lists the CUs in the disk array per parity group.

This command is not supported for the XP256.

Syntax

```
list pg_volume_info [-pg <paritygroup>]
```

Arguments

`[-pg <paritygroup>]`

If the `-pg` option is provided, then the output shows only information for the specified parity group.

Output

This command displays the following information:

- Parity group
- CU
- Number of LDEVs
- Emulation
- Attribute

list port

This command lists all the ports of the disk array.

Syntax

```
list port
```

Output

By default, this command displays the following information:

- Port name
- Host mode
- Fibre address
- Fibre topology

Fibre Topology Values

- 1 = Fabric on and FC-AL
- 2 = Fabric off and FC-AL
- 3 = Fabric on and point-to-point
- 4 = Fabric off and point-to-point
- 5 = Not a Fibre Channel port

list security_switch

This command lists security switch information for the disk array.

Syntax

```
list security_switch [-port <portname>]
```

Arguments

```
[-port <portname>]
```

If the `-port` option is provided, then it lists the LUN security information for that port name. Port names are not case-sensitive.

Output

This command displays the following information:

- Port name
- Security switch

list wwn

This command lists WWN information for WWNs registered with disk array ports.

Syntax

```
list wwn [-port <portname>]
```

Arguments

```
[-port <portname>]
```

If the `-port` option is provided, then the output shows only WWNs for the specified port name. Port names are not case-sensitive.

Output

This command displays the following information:

- Port name
- WWN nickname
- WWN

list wwn_group

This command lists WWN group information for the disk array.

Syntax

```
list wwn_group [-port <portname> [-group <groupname>]]
```

Arguments

```
[-port <portname> [-group <groupname>]]
```

If the -port option is provided, you can also use the -group option. The output shows only WWNs for the specified port and group name. Port names are not case-sensitive.

Output

This command displays the following information:

- Port name
- WWN group name
- WWNs

modify cmd_device

Use this command to set an LDEV as a command device or to release an existing command device.

Syntax

```
modify cmd_device <cu>, <ldev>, SET|RELEASE
```

Arguments

<cu>

The CU whose LDEV is to be set or released as a command device. The CU must be specified in hexadecimal.

<ldev>

The LDEV that is to be set or released as a command device. The LDEV must be specified in hexadecimal and is not case-sensitive.

SET|RELEASE

If the flag is has the value SET, the LDEV is made a command device. If flag has the value RELEASE, the existing command device is released.

Example

```
modify cmd_device 0, 0f, SET
```

modify fibre_address

This command modifies a port's Fiber Channel address.

Syntax

```
modify fibre_address <portname>, <fibre_address>
```

Arguments

<portname>

The port whose address is to be modified. Port names are not case-sensitive.

<fibre_address>

The address to be set. The fibre address is specified as a loop ID value.

Example

```
modify fibre_address CL1-A, 10
```

modify fibre_topology

This command modifies a port's Fibre Channel topology.

Syntax

```
modify fibre_topology <portname>, <fibre_topology>
```

Arguments

<portname>

The port whose topology is to be modified. Port names are not case-sensitive.

<fibre_topology>

The topology to be set. The fibre topology is specified in a range between 1 to 4.

Example

```
modify fibre_topology CL1-A, 4
```

modify host_mode

This command modifies a port's host mode.

Syntax

```
modify host_mode <portname>, <hostmode>
```

Arguments

<portname>

The port whose host mode is to be modified. Port names are not case-sensitive.

<hostmode>

The new host mode to be set. The following host mode values are supported for the XP48/XP256/XP512:

Fast-wide and Fibre Channel support for the XP48/XP256/XP512:

- 00: Standard
- 03: Reserved
- 04: Sequent
- 05 - 07: Reserved
- 08: HP-UX
- 09: VxVM-DMP
- 0A: NetWare
- 0C: MS Cluster Server
- 0D - 0F: Reserved

Ultra SCSI support for the XP256:

- 10: Standard
- 11: IBM-7135
- 12: NCR
- 13: Reserved
- 14, 15: Sequent
- 16, 17: Reserved

- 18: HP-UX
- 19: VxVM-DMP
- 1A: NetWare
- 1B: MPE/iX
- 1C: MS Cluster Server
- 1D, 0E, 0F: Reserved

Example

```
modify host_mode CL1-A, 03
```

modify lun_group_nickname

This command modifies a LUN group nickname.

Syntax

```
modify lun_group_nickname <portname>,  
                           <old_group_nickname>, <new_group_nickname>
```

Arguments

<portname>

The port whose LUN group nickname is to be modified. Port names are not case-sensitive.

<old_group_nickname>

The LUN group nickname that has to be modified.

<new_group_nickname>

The new LUN group nickname to be set.

Example

```
modify lun_group_nickname CL1-A, Nick1, Nick2
```

modify security_switch

This command modifies port security by setting the security to ON or OFF.

Syntax

```
modify security_switch <portname>, ON|OFF
```

Arguments

<portname>

The port whose security switch is to be modified. Port names are not case-sensitive.

ON | OFF

The switch value. The security switch can be ON or OFF.

Example

```
modify security_switch CL1-A, ON
```

modify wwn

This command modifies the WWN for the port and WWN specified.

Syntax

```
modify wwn <portname>, <oldwwn>, <newWwn>
```

Arguments

<portname>

The port whose WWN is to be modified. Only one port can be specified. Port names are not case-sensitive.

<oldwwn>

The WWN whose WWN has to be modified. Only one WWN can be specified.

<newWwn>

Used to specify the new WWN. This must be a 16-digit hexadecimal value and must be unique within the port.

Example

```
modify wwn CL1-C, 1234567890abcdef, baaaaaaaaaaaaaac
```

modify wwn_group_nickname

This command modifies the WWN group nickname.

Syntax

```
modify wwn_group_nickname <portname>,  
<old_group_nickname>, <new_group_nickname>
```

Arguments

<portname>

The port whose WWN group nickname is to be modified. Port names are not case-sensitive.

<old_group_nickname>

The WWN group nickname that has to be modified.

<new_group_nickname>

The new WWN group nickname to be set.

Example

```
modify wwn_group_nickname CL1-C, wwnGrp1, wwnGrp101
```

modify wwn_nickname

This command modifies a WWN nickname.

Syntax

```
modify wwn_nickname <portname>, <old_nickname>,  
<new_nickname>
```

Arguments

<portname>

The port whose WWN nickname is to be modified. Port names are not case-sensitive.

<old_nickname>

The WWN nickname that has to be modified.

<new_nickname>

The new WWN nickname to be set.

Example

```
modify wwn_nickname CL1-C, wwn1, wwn2
```

remove wwn_group

This command deletes a WWN group and the WWNs defined in the group.

Syntax

```
remove wwn_group <portname>, <wwn_group_nickname>
```

Arguments

<portname>

The port from which the WWN group is to be deleted. Port names are not case-sensitive.

<wwn_group_nickname>

The WWN group nickname to be deleted.

Example

```
remove wwn_group CL1-C, wwnggrp1
```

VOLUME MANAGEMENT Commands

This section describes the following commands:

- [create custom_volumes](#) (page 196)
- [delete vsc_volumes](#) (page 197)
- [expand lun](#) (page 198)
- [list ldev](#) (page 200)
- [list ldev_size_info](#) (page 201)
- [list luse](#) (page 202)
- [list parity_group](#) (page 203)
- [list unused_ldev_ids](#) (page 204)
- [list usable_cus](#) (page 205)
- [volume initialize](#) (page 206)

create custom_volumes

This command creates a custom volume.

This command is not supported for the XP256.

Syntax

```
create custom_volumes <pg>, <cu>, <ldev>, <emulation>,  
<ldev_size> [;<cu2>, <ldev2>, <emulation2>,  
<ldev_size2>...]
```

Arguments

<pg>

The parity group number for the new custom volume.

<cu>

The CUs for the new custom volume. CUs should be represented in hexadecimal.

<ldev>

The LDEV ID for the new custom volume. The LDEV ID should be expressed in hexadecimal.

<emulation>

The emulation type of the new custom volume.

<ldev_size>

The size of the new custom volume.

Example

The following example creates a custom volume in parity group 1-1, with CU 0, LDEV 7, emulation type OPEN-3, and a size of 100 megabytes:

```
create custom_volumes 1-1, 0, 7, OPEN-3, 100
```

delete vsc_volumes

This command converts a custom or normal volume into free space. This command cannot convert the last normal volume to free space.

This command is not supported for the XP256.

Syntax

```
delete vsc_volumes <pg>, <cu>, <ldev>  
[; <cu2>, <ldev2>...]
```

Arguments

<pg>

The parity group for which the deletion of LDEV is to be done.

<cu>

The CU ID of the LDEV to be deleted. CUs should be represented in hexadecimal.

<ldev>

The LDEV ID of the LDEV to be deleted. LDEV IDs should be represented in hexadecimal.

Example

```
delete vsc_volumes 1-1, 0, 0
```

expand lun

This command creates an expanded LUN.

Syntax

```
expand lun <top_cu>, <top_ldev>, <device_ldevs...>  
-lun <portname>, <scsi_id>, <lun_id>, <cu>, <ldev>  
or  
expand lun <top_cu>, <top_ldev> -limit <ldev_count>  
-lun <portname>, <scsi_id>, <lun_id>, <cu>, <ldev>
```

Arguments

<top_cu>

The CU number of the first LDEV in the expanded volume. *<top_cu>* should be specified in hexadecimal.

<top_ldev>

The LDEV number of the first LDEV in the expanded volume. *<top_ldev>* should be specified in hexadecimal.

<device_ldevs...>

The list of LDEVs to be expanded. *<device_ldevs>* should be specified in hexadecimal and separated by commas. This option cannot be used with the *-limit* option.

-limit <ldev_count>

The number of LDEVs to create. This option cannot be used with *<device_ldevs>*.

-lun <portname>, <scsi_id>, <lun_id>, <cu>, <ldev>

The *-lun* option specifies the paths to the LUSE volume. *<portname>*, *<scsi_id>*, *<lun_id>*, *<cu>*, *<ldev>* specify the complete path. If specifying more than one port, enclose the port names in brackets (for example, [CL1-A-CL1-E]). Port names are not case-sensitive. LUNs, CUs, and LDEVs must be given in hexadecimal.

Example

The following example creates an expanded LUN with top CU:LDEV 0:20 and device CU:LDEV 0:30, 0:34 and 0:37. It creates a LUN from CL1-A to the expanded LUN 0:20.

```
expand lun 0, 20, 30,34,37 -lun CL1-A, 0f, 10, 0, 20
```

The following example creates an expanded LUN with top CU:LDEV 0:20 and three device CU:LDEVs. It creates a LUN from port CL1-A to the expanded LUN 0:20.

```
expand lun 0, 20, -limit 3 -lun CL1-A, 0f, 10, 0, 20
```

list ldev

This command lists all the LDEVs that are available in the array. This command also lists LDEV information belonging to a CU.

Syntax

```
list ldev [-cu <cu>]
```

Arguments

[-cu <cu>]

CU number. When used, the command lists only the LDEVs for the specified CU. CUs must be given in hexadecimal.

Output

This command displays the following information:

- CU
- LDEV
- Number of Cylinders
- Emulation
- Expansion Status
- Allocation Status
- LDEV Size
- LDEV LBA
- Auto LUN Reserve
- RAID Level
- Slot Size
- FB4,PG (XP48/XP512 only)

list ldev_size_info

This command lists the LDEVs based on the parity group and/or CU numbers.
This command is not supported for the XP256.

Syntax

```
list ldev_size_info [-pg <paritygroup>] [-cu <cu>]
```

Arguments

`[-pg <paritygroup>]`

If the `-pg` option is provided, then the output shows only information for the specified parity group.

`[-cu <cu>]`

If the `-cu` option is provided, then the output shows only information for the specified CU. CUs must be given in hexadecimal.

Output

This command displays the following information:

- Parity group
- CU
- LDEV
- Emulation type
- Attribute
- User size
- Total size

list luse

This command lists LUSE volumes on the disk array. This command also lists LUSE volumes belonging to a particular CU.

Syntax

```
list luse [-cu <cu>]
```

Arguments

`[-cu <cu>]`

CU number. When used, the command lists only the LUSE volumes for the specified CU. CUs must be given in hexadecimal.

Output

This command displays the following information:

- Top CU
- Top LDEV
- Device LDEVs

list parity_group

This command lists all the parity groups of the disk array.

This command is not supported for the XP256.

Syntax

```
list parity_group
```

Example

```
Parity Groups
```

```
1-1
```

```
1-2
```

```
1-3
```

```
1-4
```

```
1-5
```

```
1-6
```

```
1-7
```

```
2-1
```

```
2-2
```

```
2-3
```

```
2-4
```

```
2-5
```

```
2-6
```

list unused_ldev_ids

This command lists unused LDEV IDs present in the disk array. This information is generally used for assigning LDEV IDs to the custom and normal volumes created when using the `create custom_volumes` and `volume initialize` commands. This is not the same as unallocated LDEVs. For that, refer to `list free_ldev` on page 173.

This command is not supported for the XP256.

Syntax

```
list unused_ldev_ids [-cu <cu>]
```

Arguments

`[-cu <cu>]`

CU number. When used, the command lists only the unused LDEVs for the specified CU. CUs must be given in hexadecimal.

Output

This command displays the following information:

- CU
- LDEV

list usable_cus

This command lists the usable CUs present in the disk array.

This command is not supported for the XP256.

Syntax

```
list usable_cus
```

Example

`list usable_cus` displays all the CU IDs that can be used for configuration in the disk array.

```
CUID
0
1
2
3
```

volume initialize

This command converts the custom volumes to normal volumes in a parity group. Execute the `list count_for_volume_initialize` command before executing this command to learn the volume count in order to provide the number of LDEVs to be assigned to the normal volumes.

This command is not supported for the XP256.

Syntax

```
volume initialize <pg>, <cu>, <ldev>  
[; <cu2>, <ldev2>...]
```

Arguments

<pg>

The parity group present in the disk array.

<cu>, <ldev>

The IDs of the new normal LDEVs to be created. For each CU value, specify which LDEV you want to use. CUs and LDEVs must be given in hexadecimal.

Example

```
volume initialize 1-1, 0, 9
```

DKC, DKU, and TRAP Commands

This section describes the following commands:

- [list acp_status](#) or [list dka_status](#) (page 208)
- [list chip_status](#) or [list cha_status](#) (page 210)
- [list chp_status](#) (page 212)
- [list cm_status](#) (page 213)
- [list csw_status](#) (page 214)
- [list dkc_status](#) (page 215)
- [list dkp_status](#) (page 216)
- [list dku_status](#) (page 217)
- [list drr_status](#) (page 218)
- [list pg_status](#) (page 219)
- [list sm_status](#) (page 222)
- [list traps](#) (page 223)

list acp_status or list dka_status

This command displays array control processor (ACP) and disk adapter (DKA) details. The terms ACP and DKA refer to the same component. You can also provide ACPs/DKAs names to view the status of specific ACPs/DKAs.

This command is not supported for the XP256.

Syntax

```
list acp_status [<acpname...> | -s <statustype...>]  
[-x]
```

or

```
list dka_status [<dkaname...> | -s <statustype...>]  
[-x]
```

Arguments

[<acpname...>] or [<dkaname...>]

Displays the status of the specified ACPs/DKAs.

[-s <statustype...>]

Displays only those ACPs/DKAs with the specified status type (for example, acute or service). Values are normal, acute, service, moderate, and serious.

[-x]

Lists a detailed error status for the ACPs/DKAs with errors.

Example

```
Cluster# DKA# Name Status  
1 1 DKA-1B Normal  
1 2 DKA-1C Service  
1 3 DKA-1D Acute  
1 4 DKA-1E Serious
```

[-x]

Component	Status	REFCODE	Category	Error
-----------	--------	---------	----------	-------

DKA-1C	Moderate	3D9D10	DKA Processor Error	Injustice DC Voltage Control
--------	----------	--------	---------------------	------------------------------

DKA-1D	Moderate	3D9E20	DKA Processor Error	Injustice CE MODE
--------	----------	--------	---------------------	-------------------

list chip_status or list cha_status

This command displays channel host interface processor (CHIP) and channel adapter (CHA) status details. The terms CHIP and CHA refer to the same component. You can also provide chip names to view the status of specific CHIPS/CHAs.

This command is not supported for the XP256.

Syntax

```
list chip_status [<chipname...> | -s <statustype...>]  
[-x]
```

or

```
list cha_status [<chaname...> | -s <statustype...>]  
[-x]
```

Arguments

[<chipname...>] or [<chaname...>]

Displays the status of the specified CHIPS/CHAs.

[-s <statustype...>]

Displays only those CHIPS/CHAs with the specified status types (for example, acute or service). Values are normal, acute, service, moderate, and serious.

[-x]

Displays detailed error status for the CHIPS/CHAs with errors.

Example

```
Cluster# CHA# Name Status  
1 1 CHA-1P Normal  
1 2 CHA-1Q Service  
1 3 CHA-1R Acute  
1 3 CHA-1S Serious
```

[-x]

Component	Status	REFCODE	Category	Error
-----------	--------	---------	----------	-------

CHA-1P	Moderate	399D00	CHA Processor Error	Injustice DC Voltage Control
--------	----------	--------	---------------------	------------------------------

CHA-1Q	Moderate	399E10	CHA Processor Error	Injustice CE MODE
--------	----------	--------	---------------------	-------------------

CHA-1R	Normal			
--------	--------	--	--	--

CHA-1S	Normal			
--------	--------	--	--	--

list chp_status

This command displays channel processor (CHP) details.

This command is not supported for the XP256.

Syntax

```
list chp_status [<chpname...> | -s <statustype...>]  
[-x]
```

Arguments

[<chpname...>]

Displays the status of the specified CHPs.

[-s <statustype...>]

Displays only those CHPs with the specified status types (for example, acute or service). Values are normal, acute, service, moderate, and serious.

[-x]

Lists a detailed error status for the CHPs with errors.

Example

```
Cluster# CHA# CHP# Name Status  
1 1 1 CHP00-1P Normal  
1 2 2 CHP00-1Q Service  
1 3 3 CHP00-1R Acute  
1 4 4 CHP00-1S Serious
```

[-x]

```
Component Status REFCODE Category Error  
CHP02-1P Service 307102 CHA Processor Error CHK1B threshold over  
CHP11-1Q Serious 309011 CHA Processor Error LDEV blockade(Effect  
of Processor blockade)  
CHP00-1R Normal
```

list cm_status

This command displays cache memory (CM) details. You can also provide cache memory names to view the status of specific CMs.

This command is not supported for the XP256.

Syntax

```
list cm_status [<cmname...> | -s <statustype...>] [-x]
```

Arguments

[<cmname...>]

Displays the status of the specified CMs.

[-s <statustype...>]

Displays only those CMs with the specified status types (for example, acute or service). Values are normal, acute, service, moderate, and serious.

[-x]

Lists a detailed error status for the CMs with errors.

Example

```
Cluster# Cache# Name Status
1 0 Cache-1T Normal
```

[-x]

```
Component Status REFCODE Category Error
CACHE-1U Moderate FFF602 Cache Error Injustice DC voltage
control
CACHE-2F Moderate FFF703 Cache Error Injustice CE MODE
CACHE-1T Normal
```

list csw_status

This command displays cache switch (CSW) details. You can also provide CSW names to view the status of specific CSWs.

This command is not supported for the XP256.

Syntax

```
list csw_status [<cswname...> | -s <statustype...>]  
[-x]
```

Arguments

[<cswname...>]

Displays the status of the specified CSWs.

[-s <statustype...>]

Displays only those CSWs with the specified status types (for example, acute or service). Values are normal, acute, service, moderate, and serious.

[-x]

Lists a detailed error status for the CSWs with errors.

Example

```
Cluster# CSW# Name Status  
1 0 CSW-1N Normal  
1 0 CSW-1P Service
```

[-x]

```
Component Status REFCODE Category Error  
CSW-1N Moderate FF2002 CSW error Injustice DC voltage control  
CSW-1A Moderate FF2100 CSW error Injustice CE MODE CSW-1P Normal
```

list dkc_status

This command displays the disk controller (DKC) components and their overall status.

This command is not supported for the XP256.

Syntax

```
list dkc_status
```

Example

```
Component, Status
Processor, Normal
CSW, Serious
Cache, Moderate
Shared Memory, Normal
Power Supply, Normal
Battery, Normal
Fan, Normal
Environment, Serious
```

list dkp_status

This command displays disk processor (DKP) details. You can also provide DKP names to view the status of specific DKPs.

This command is not supported for the XP256.

Syntax

```
list dkp_status [<dkpname...> | -s <statustype...>]  
[-x]
```

Arguments

[<dkpname...>]

Displays the status of the specified DKPs.

[-s <statustype...>]

Displays only those DKPs with the specified status types (for example, acute or service). Values are normal, acute, service, moderate, and serious.

[-x]

Lists a detailed error status for the DKPs with errors.

Example

```
Cluster# DKA# DKP# Name Status  
1 1 1 DKP80-1B Normal  
1 2 2 DKP80-1C Service  
1 3 3 DKP80-1D Acute  
1 4 4 DKP80-1E Serious
```

[-x]

```
Component Status REFCODE Category Error  
DKP81-1B Moderate 3D9B01 DKA Processor Error SMA slave error  
DKPA1-1D Moderate 3D9C21 DKA Processor Error MPA slave error  
DKP80-1E Normal
```

list dku_status

This command displays the disk cabinet unit (DKU) component details and status.
This command is not supported for the XP256.

Syntax

```
list dku_status
```

Example

```
Component, Status  
Power Supply, Normal  
Fan, Normal  
Environment, Serious  
Drive, Acute
```

list drr_status

This command displays disk recovery and regeneration (DRR) details. You can also provide DRR names to view the status of specific DRRs.

This command is not supported for the XP256.

Syntax

```
list drr_status [<drrname...> | -s <statustype...>]  
[-x]
```

Arguments

[<drrname...>]

Displays the status of the specified DRRs. <drrname> can be one value, a set of values, or a range of values.

[-s <statustype...>]

Displays only those DRRs with the specified status types (for example, acute or service). Values are normal, acute, service, moderate, and serious.

[-x]

Lists a detailed error status for the DRRs with errors.

Example

```
Cluster# DKA# DRR# Name Status  
1 1 1 DRR80-1B Normal  
1 2 2 DRR80-1C Service  
1 3 3 DRR80-1D Acute  
1 4 4 DRR80-1E Serious
```

[-x]

```
Component Status REFCODE Category Error  
DRR81-1B Moderate 3D9B01 DKA Processor Error SMA slave error  
DRRA1-1D Moderate 3D9C21 DKA Processor Error MPA slave error  
DRR80-1E Normal
```

list pg_status

This command displays parity group (PG) status details.

This command is not supported for the XP256.

Syntax

```
list pg_status [-x] [-s <statustype...>]  
[-pg <pgname...> | -domain <domain...> | -dku <dku...>]  
[-disk | -ldev]
```

Arguments

[-x]

Lists a detailed error status for the parity groups with errors.

[-s <statustype...>]

Displays only parity groups with the specified status types (for example, acute or service). Values are normal, acute, service, moderate, and serious.

[-pg <pgname...>]

Displays only the specified parity groups (for example, 1-1 or 1-2).

[-domain <domain...>]

Displays only the parity groups in the specified domains (for example, 1 or 3).

[-dku <dku...>]

Displays only the parity groups in the specified DKUs (for example, R1 or R3).

[-disk]

Displays physical disk status details.

[-ldev]

Displays logical device (LDEV) status details.

Example

```
DKU# FB4# PG# Name Size(MB) Status  
1 1 1 1-1 20 Normal  
1 1 2 1-2 30 Service
```

[-x]

```
DKU# PG Component Status REFCODE Category Error
R1 1-1 R120 Service EF2200 Drive error (normal R/W) Drive
blockade (Effect of Dynamic sparing normal end)
R1 1-1 R130 Serious 43C300 Drive error (normal R/W) Drive
blockade (media)
R1 1-2 * Normal
R1 1-3 * Normal
```

“*” indicates that all the components in that parity group are normal. If any of the components in a parity group have errors, then only those component names are specified.

[-disk]

```
DKU# PG Disk Status
1 1-1 R100 Normal
1 1-2 R200 Service
```

[-ldev]

```
DKU# PG Ldev Size(MB) Emulation Status
1 1-1 0:00 20 OPEN-3 Normal
1 1-2 0:20 30 OPEN-9 Service
```

Example 1

```
list pg_status -x
```

```
DKU FB4 PG Status REFCODE Category Error
R1 1 1 Service EF2200 Drive error (normal R/W) Drive blockade
(Effect of Dynamic sparing normal end)
R1 1 1 Serious 43C300 Drive error (normal R/W) Drive blockade
(media)
```

Example 2

```
list pg_status -x -disk
```

```
DKU PG Disk Status REFCODE Category Error
R1 1-1 R120 Service EF2200 Drive error (normal R/W) Drive
blockade (Effect of Dynamic sparing normal end)
R1 1-1 R130 Serious 43C300 Drive error (normal R/W) Drive
blockade (media)
```

Example 3

```
list pg_status -x -ldev
```

```
DKU PG Ldev Status REFCODE Category Error
```

```
R1 1-1 0:05 Service D32005 Pair volume status error HODM for  
this volume was deleted (Operation from an SVP/remote console
```

```
R1 1-1 0:9 Service D31009 Pair volume status error HODM  
completed the migration copy for this volume
```

list sm_status

This command displays shared memory (SM) details. You can also provide shared memory names to view the status of specific SMs.

This command is not supported for the XP256.

Syntax

```
list sm_status [<smname...> | -s <statustype...>] [-x]
```

Arguments

[<smname...>]

Displays the status of the specified SMs.

[-s <statustype...>]

Displays only those SMs with the specified status types. Values are normal, acute, service, moderate, and serious.

[-x]

Lists a detailed error status for the SMs with errors.

Example

```
CSW#,Name,Status  
0,Side-A,Normal
```

[-x]

```
Component Status REFCODE Category Error  
Side-B Service FFEC01 Shared Memory Error CHK3 threshold over  
Side-A Normal
```

list traps

This command displays all the events from the disk array that have resulted in an SNMP trap.

This command is not supported for the XP256.

Syntax

```
list traps [-n <componentname...>] [-r <refcode...>]  
[-s <statustype...>] [-c <category>]
```

Arguments

`[-n <componentname...>]`

Lists traps for the specified components.

`[-r <refcode...>]`

Lists traps with the specified reference code.

`[-s <statustype...>]`

Lists traps with the specified status types (for example, acute or acute:service). Values are normal, acute, service, moderate, and serious.

`[-c <category>]`

Lists traps in the specified category. *<category>* must be one value (for example, CHA Processor Error).

Example

```
Component,STATUS,REFCODE,CATEGORY,ERROR  
CHA-1P, Moderate,399D00,CHA Processor Error, Injustice DC  
Voltage Control  
CHA-1Q, Moderate,399E10,CHA Processor Error, Injustice CE MODE  
R120,Service EF2200,Drive error (normal R/W), Drive Blockade  
(Effect of Dynamic sparing normal end)  
DRRA1-1D,Moderate,3D9C21,DKA Processor Error,MPA slave error  
CHA-1Q,Moderate,399E10,CHA Processor Error, Injustice CE MODE
```


Batch Processing

5

Use the Command View CLI to run one or more CLI commands contained in a text file called a batch file. Batch processing features include:

- Ability to invoke the CLI, execute commands in a batch file, and then terminate.
- Ability to execute a batch file during an interactive CLI session by using the `execute` command.
- Ability to direct output from batch operations to a file.
- Faster execution by processing related configuration change commands simultaneously.

Batch File Setup

Use a word processor or text editor to set up the batch file. Insert one or more CLI commands into the file using normal command syntax.

You can insert comments by starting the comment line with the “#” character. Use the “/” character to continue a command to another line.

A simple batch file example is shown below:

```
# This is a comment line
connect 10043
list lun
list ldev
list wwn
# Next command is create lun
# Syntax is create lun Port_name,
# SCSID, LUN, CU, Ldev
create lun CL1-A, 2, 3, 0, 4
create lun CL1-B, 3, 4, 1, /
5
```

Commands in a batch file are not executed in the order they are listed in the file. Instead, similar commands are grouped together and executed together to increase speed and efficiency. See [Multiple Set Operations](#) on page 239.

CLI output and error messages (data and syntax validation, execution errors) are sent to *stdout*, typically your screen. If the CLI client program fails, the resulting error output will go the *stderr* file, typically the screen.

Note: Only CLI commands can be used in a batch file. Other shell commands or DOS commands are not allowed.

Batch Processing with the -f Option

Use the `-f` option to declare which batch file the CLI should run. This option starts the CLI and it processes the commands in the file you specify. For example:

```
cvcli -f listlun.txt
```

One `connect` command is mandatory in the file to specify which different operations are to be carried out. You can manage only one disk array in each script or file. Also, you cannot include commands that execute an operation on the same resource. For example, you cannot create and delete the same LUN in a single file.

Use only one batch file at a time. The filename can contain a relative or absolute path. A relative path will be relative to the directory where the CLI was started.

The CLI will automatically disconnect from any disk array before terminating.

For more information about batch processing with the `-f` option, refer to the following instructions and script files. These files are located in the *cvcli.tar* file, which is the CLI client file available on the Command View **Support** tab.

- *CVCLIScripting.txt*: Instructions on running scripts using the `-f` option method.
- *configscript.txt*: A script file for only listing the disk array configurations for an XP128/XP1024.
- *configscriptlegacy.txt*: A script file for only listing the disk array configurations for an XP48/XP256/XP512.
- *configModifyScript128_1024.txt*: A script file for making disk array configuration changes to an XP128/XP1024.
- *configModifyScript256_512_48.txt*: A script file for making disk array configuration changes to an XP48/XP256/XP512.

Restrictions of the -f Option

The following commands cannot be used in a batch file executed with the `-f` option:

- `add device`
- `create device`
- `delete device`
- `disconnect`
- `execute`

- `exit`
- `help`
- `kill session`
- `manage`
- `modify device`
- `unmanage`

Except when calling certain device and session administration commands, the first command in the file should be a `connect` command. You can issue a `connect` command for a disk array only once in the batch file.

Batch Processing Using the Execute Command

Use the `execute` command to run batch files during an interactive CLI session. Commands are processed the same as in the `cvcli -f` case, but there are some restrictions. Before running the `execute` command, you should always connect to a disk array first by issuing the `connect` command. Here's an example of using the `execute` command:

```
cvcli 10044(R)>execute listlun.txt
```

Use this method to specify the file that contains the CLI commands. This is an easy way to use generic batch files for different disk arrays. Processing of commands for multiple disk arrays is not supported.

You can specify only one filename at a time. The filename can contain a relative or absolute path. A relative path will be relative to the directory where the CLI was started.

Restrictions of the Execute Command

The following commands cannot be used as part of the input file with the `execute` command:

- `connect`
- `create device`
- `delete device`
- `disconnect`
- `execute`
- `exit`
- `help`
- `kill session`
- `list session`
- `manage`
- `modify device`
- `unmanage`

When using the `execute` command, you cannot use the `connect` command in the file. It is mandatory to issue the `connect` command before you issue the `execute` command. Also, you cannot use the `disconnect` command in the batch file. You must issue it after processing the `execute` command. Note that other commands are optional. A typical session sequence will be as follows:

```
connect 10044
other commands...
cvcli 10044(R)>execute listlun.txt
other commands...
cvcli 10044(R/W)>disconnect
```

Redirecting Output with the -o Option

Use the `-o` option to redirect output to a file.

XP48, XP256, and XP512

If the file contains any command with `-o`, then an error is flagged because the `-o` option is not supported for commands within the batch file.

Example 1

This first command in the following batch file will fail to execute correctly.

list.txt contains:

```
list port -o port.out
list wwn
```

The command entered is:

```
CV_CLI 30055 (R)> execute list.txt
```

The results are:

```
<Item:1 LineNumber:1>-o option cannot be used inside a command
file.
Please use the -o option within the execute command or the -f
command.
```

Example 2

This command and batch file will execute correctly.

list.txt contains:

```
list port
```

The command entered is:

```
CV_CLI 30055 (R)> execute list.txt -o list.out
```

The results are:

```
Sending request to the CV server ...
Please find results in the file:list.out
```

XP128 and XP1024

The `-o` option is supported for these disk arrays in both the batch file and the command line.

Specifying the `-o` option with a command in the file will send the command output to the file specified in the command. If the `-o` option is not specified for a command, the output is sent to the file specified “outside” the file, at the `cvcli` execution with `-o` or the `execute` command execution with `-o`.

Example 1

This command and batch file will execute correctly.

list.txt contains:

```
list port -o port.out
list ldev -o ldev.out
```

The command entered is:

```
CV_CLI 10039 (R/W)> execute list.txt -o all.out
```

The results are:

```
Sending request to the CV server ...
10039: The server has latest data.
Sending output to file: all.out
```

all.out contains:

```
Executing line#1...
list port -o port.out
Sending output to file : port.out
Executing line#2...
list ldev -o ldev.out
Sending output to file : ldev.out
```

port.out contains:

```
Executing line#1...
list port -o port.out
PortName
CL1-A
CL1-B
CL1-C
CL1-D
CL1-E
CL1-F
```

Example 2

This command and batch file will execute correctly.

list.txt contains:

```
list port -o port.out
list ldev -o ldev.out
```


The command entered is:

```
CV_CLI 10039 (R/W)> execute list.txt
```

The results are:

```
Sending request to the CV server ...  
10039: The server has latest data.  
Executing line#1...  
list port -o port.out  
Sending output to file : port.out  
Executing line#2...
```

Redirecting Output to be Used as Input

A number of `list` commands for the XP128/XP1024 can generate output that is useful as input to other commands. Use the `-cmd` and `-category` options, as described below, to create special output files.

The output files contains `create` or `delete` commands based on the results of the `list` commands. They are formatted, and ready for execution, using the `-f` option or `execute` command.

Sample Syntax

```
list lun -cmd <command_type> -category <category> [-col  
<column_name...>] -csv -o <output_file>
```

-cmd <command_type>

Must be one of the following:

- `create`
- `delete`

-category <category>

Must be one of the following:

- `lun`
- `host_group`
- `luse`

[-col <column_name...>]

Use selective column names if the output file contains more fields than needed for the `create` or `delete` commands that are generated.

-csv

The `-csv` option must be used to produce comma-separated output.

-o <output_file>

The file where the output is to be written. This can be a filename only or a path and filename.

The above functionality is targeted only for CLI output generated with the `-cmd` and `-category` options, prior CLI output should be edited by the user manually to feed it as input.

Example 1

Enter: `list lun -cmd create -category lun -csv -o createluns.txt`

```
CV_CLI 20036 (R/W)> list lun -cmd create -category lun -csv
Sending Request to CV server...
20036 : The server has latest data.
create lun 1A,1A-G00,1,0,6
create lun 1A,1A-G00,2,0,7
create lun 1A,1A-G00,30,0,11
create lun 1A,1B-G00,8,0,52
create lun 1A,1B-G00,9,0,53
create lun 1B,1B-G00,4,0,14
create lun 1B,1B-G00,b,0,1b
create lun 1B,1B-G00,c,0,1c
create lun 1C,1C-G00,2,0,12
create lun 1C,1C-G00,3,0,13
create lun 1C,1C-G00,4,0,14
create lun 1C,1C-G00,5,0,15
create lun 1C,1C-G00,6,0,16
```

Example 2

Enter: `list lun -cmd delete -category lun -csv -o deletelun.txt`

```
CV_CLI 20036 (R)> list lun -cmd delete -category lun -csv
Sending Request to CV server ...
20036 : The server has latest data.
delete lun 1A,1A-G00,1,0,6
delete lun 1A,1A-G00,2,0,7
delete lun 1A,1B-G00,9,0,53
delete lun 1A,1B-G00,a,0,54
delete lun 1B,1B-G00,3,0,13
delete lun 1B,1B-G00,10,0,20
delete lun 1B,1B-G00,21,2,1
delete lun 1C,1C-G00,0,0,10
delete lun 1C,1C-G00,2,0,12
delete lun 1C,1C-G00,3,0,13
delete lun 1C,1C-G00,4,0,14
```

Example 3

Enter: `list lun -cmd create -category host_group -col PortName:HostGroupNickname -csv -o createhost_grp.txt`

```
CV_CLI 20036 (R)> list lun -cmd create -category host_group -col
PortName:HostGroupNickname -csv
Sending Request to CV server ...
```

```
20036 : The server has latest data.
create host_group 1A,1A-G00
create host_group 1A,1A-G00
create host_group 1A,1B-G00
create host_group 1A,1B-G00
create host_group 1B,1B-G00
create host_group 1B,1B-G00
create host_group 1B,1B-G00
create host_group 1C,1C-G00
create host_group 1C,1C-G00
create host_group 1C,1C-G00
```

Example 4

```
Enter: list lun -cmd delete -category host_group -col
PortName:HostGroupNickname -csv -o
deletehost_group.txt
```

```
CV_CLI 20036 (R)> list lun -cmd delete -category host_group -col
PortName:HostGroupNickname -csv
Sending Request to CV server ...
20036 : The server has latest data.
delete host_group 1A,1A-G00
delete host_group 1A,1A-G00
delete host_group 1A,1A-G00
delete host_group 1B,1B-G00
delete host_group 1B,1B-G00
delete host_group 1B,1B-G00
delete host_group 1B,1B-G00
delete host_group 1B,1B-G00
delete host_group 1C,1C-G00
delete host_group 1C,1C-G00
delete host_group 1C,1C-G00
```

Example 5

```
Enter: list luse -cmd delete -category luse -csv -col
CU:LDEV -o createluse.txt
```

```
CV_CLI 20036 (R)> list luse -cmd delete -category luse -csv -col
CU:LDEV
Sending Request to CV server...
20036 : The server has latest data.
delete luse 0,4a
delete luse 0,66
delete luse 0,74
delete luse 0,7d
delete luse 0,80
delete luse 0,84
delete luse 0,86
delete luse 0,88
delete luse 0,8b
```

Example 6

Enter: `list wwn -cmd create -category wwn -csv -l -o creatwwn.txt`

or

Enter: `list wwn -cmd create -category wwn -csv -col PortName:HostGroupNickname:WWN`

For creating WWNs without a nickname:

```
CV_CLI 20036 (R)> list wwn -cmd create -category wwn -csv -l
Sending Request to CV server ...
20036 : The server has latest data.
create wwn 1A,1A-G00,123456789ABCDEF~A333
create wwn 1A,1A-G00,123456789ABCD~A2
create wwn 1A,1A-G00,12341654AB4DC809
create wwn 1A,nick1,1234567891234567~wwntest1
create wwn 1A,nick1,1111111111111111~test
create wwn 1A,nick1,1234123412341234~wwntest
create wwn 1A,nick1,AAAAAAAAAAAA23423~wwn1
create wwn 1A,nick1,FFFFFFFFFFFF23423~wwn2
create wwn 1A,nick1,1234567891234568~wwntest2
create wwn 1A,newgrp,FFFFFFFFFFFFFFFF~DEC16
create wwn 2A,2A-G00,123456789ABCDEF~wwn1
create wwn 2A,2A-G00,123456789ABCDEF~wwn2
create wwn 2A,2A-G00,ABCDABCDABCDABCD~wwn3
create wwn 2A,2A-G00,1234123412341234~wwn4
create wwn 2B,nick1,ABCDEF123456789~wwnnick1
create wwn 2B,nick2,ABCDEF123456788~test2
create wwn 2B,nick2,ABCDEF123456787~test1
create wwn 2C,nick1,ABCDEF123456789~wwnnick1
create wwn 2C,nick1,123456789ABCDE~wwnnick2
create wwn 2C,nick1,123456789ABCDEF~wwnnick3
create wwn 2C,nick2,ABCDEF123456788~test2
create wwn 2C,nick2,ABCDEF123456787~test1
```

Example 7

Enter: `list wwn -cmd delete -category wwn -csv -col PortName:HostGroupNickname:WWN`

```
CV_CLI 20036 (R)> list wwn -cmd delete -category wwn -csv -col
PortName:HostGroupNickname:WWN
Sending Request to CV server ...
20036 : The server has latest data.
delete wwn 1A,1A-G00,123456789ABCDEF~A333
delete wwn 1A,1A-G00,123456789ABCD~A2
delete wwn 1A,1A-G00,12341654AB4DC809
delete wwn 1A,nick1,1234567891234567
delete wwn 1A,nick1,1111111111111111
delete wwn 1A,nick1,1234123412341234
delete wwn 1A,nick1,AAAAAAAAAAAA23423
delete wwn 1A,nick1,FFFFFFFFFFFF23423
```

```
delete wwn 1A,nick1,1234567891234568
delete wwn 1A,newgrp,FFFFFFFFFFFFFFFFF
delete wwn 2A,2A-G00,123456789ABCDEFF
delete wwn 2A,2A-G00,123456789ABCDEF
delete wwn 2A,2A-G00,ABCDABCDABCDABCD
delete wwn 2A,2A-G00,1234123412341234
delete wwn 2B,nick1,ABCDEFF123456789
delete wwn 2B,nick2,ABCDEF123456788
delete wwn 2B,nick2,ABCDEFF123456787
delete wwn 2C,nick1,ABCDEFF123456789
delete wwn 2C,nick1,123456789ABCDEEE
```

Commands Not Supported

- modify commands
- create luse
- create custom_ldevs
- initialize vdev
- delete ldevs

Multiple Set Operations

Consecutive related commands in a batch file are grouped together and sent to the Command View server for execution simultaneously. The following groups are the ones under which the commands are grouped.

LIST

Contains all the list commands.

LUN MANAGEMENT

Contains `create lun`, `create luse`, `modify host_mode`, `modify cmd_device`, `modify fibre_topology`, `modify fibre_address`, `delete lun`, and `delete luse` commands.

LUN SECURITY

Contains `create wwn`, `create host_group`, `modify host_group`, `modify lun_security`, `modify wwn`, `delete host_group`, and `delete wwn` commands.

CREATE CUSTOM LDEV

Contains only `create custom_ldev` commands.

DELETE LDEV

Contains only `delete ldev` commands.

INITIALIZE

Contains only `volume initialize` commands.

INSTALL LICENSE KEY

Contains only `install license_key` commands.

UNINSTALL LICENSE KEY

Contains only `uninstall license_key` commands.

ADD IP SECURITY

Contains only `add ipsecurity` commands.

DELETE IP SECURITY

Contains only `delete ipsecurity` commands.

When the execution of any group fails, the CLI stops further execution of the file. All list commands are executed, even when there is no data available for a `list` command.

Sequence of Operations

The entire input file is first parsed for syntax errors. If a syntax error is found, all the errors are displayed with their respective line number. The commands in the file are not executed.

After a successful syntax validation, the consecutive commands in the file are grouped according to the groups above. Each group is sent to the Command View management station for execution. The execution of each group has to complete before the next group is executed.

If the execution of any group fails, the `execute` command is stopped and there is no further execution. The output and error messages for each command can be sent to a file using the `-o` option. If you don't specify the `-o` option, the output is displayed on the screen.

Scenario 1

A file containing syntax errors:

```
line#1: list port -port 1A
line#2: list ldev -port 1A
line#3: list prt -port 1A
```

Output

```
line 2: Invalid command syntax
line 3: Invalid command
```

Scenario 2

A file containing valid commands with invalid data:

```
line#1: #list commands
line#2: list port -port 1A
line#3: list ldev -cu 0 -o ldev.out
line#4:
line#5: #modify commands for lun management
line#6: create luse 0,0 - continuous 2
line#7: modify fibre_address 1A,2
line#8:
line#9: #modify command for lun security
line#10: delete wwn 1A,nick1,wwnnick2
line#11:
line#12: #some more list commands
```



```
line#13: list luse  
line#14: list wwn -o wwn.out
```

Output

The output shows the line number where the error occurred and does not execute any of the commands.

Note: For the XP48, XP256, and XP512, CLI error output does not specify the line numbers containing the errors.

Error Messages

6

This chapter contains CLI error messages and codes you may encounter if a problem occurs during validation.

There are two types of validations performed on CLI commands:

- Command syntax validation
- Configuration validation

Both validation types return error messages or codes if a problem is found with a command.

Command syntax validation verifies the syntax of the command, such as the record format, field type, and ranges for CUs, LDEVs, and so forth.

Configuration validation compares the data submitted to the disk array's configuration. The process checks for configuration errors, such as a duplicate record existing in the disk array, or invalid configuration parameters, such as invalid CU numbers, LDEV numbers, or WWN numbers.

This chapter contains the following tables:

- [Error messages](#) on page 244
- [XP48/XP256/XP512 error codes](#) on page 249
- [XP128/XP1024 error codes](#) on page 262

Error Messages

Table 2: Error messages

Error Message	Problem/Resolution
ADD_DEV_INVALID_FORMAT	Invalid format. The format should be: Add Device serialNo, lpAdd, location, ContactInformation.
CMD_DEVICE_FORMAT	Invalid format. The format should be: CU, ldev, LuCmd Device.
CONNECTED_TO_SOME_OTHER_ARRAY	You are already connected to a disk array. Disconnect.
COUNT_FOR_VOLUME_INITIALIZE	Invalid format. The format should be: list count_For_Volume_Initialize [-pg <Parity Group>].
DEL_LUN_GRP_FORMAT	Invalid format. The format should be: PortName, LUNGrpNickname.
DEL_WWN_GRP_FORMAT	Invalid format. The format should be: PortName, WWNGrpNickname.
DUPLICATE_ENTRY	The entry already exists.
ERROR_MESSAGE	Insufficient number of arguments.
EXECUTE_FORMAT	Invalid format. The format should be: execute <filename>.
FAILURE	The operation has failed.
FIBRE_FORMAT	Invalid format. The format should be: PortName, FibreAddr/FibreTopology.
HELP_INVALID_FORMAT	Invalid format. The format should be either help OR help <operation> OR help <operation> <module>.
HOSTMODE_FORMAT	Invalid format. The format should be: PortName, HostModeNumber.
HOSTMODE_NUMBER	Invalid value. The host mode number is out of range.
INSTALL_CV_FORMAT	Invalid format. The format should be: install CV pgNumber, cu1, ldev1, emulationType1, ldevSize1[;cu2,ldev2,emulationType2,ldevSize2]...
INVALID_CMD	The command is invalid.
INVALID_CMD_VALUE	Invalid value. The command device value should be either SET or RELEASE.
INVALID_CU_RANGE	The CU value is out of range.
INVALID_CU_TYPE	Invalid value. Should be a hex string.

Table 2: Error messages (Continued)

Error Message	Problem/Resolution
INVALID_CU_VALUE	Invalid value. The value is out of range.
INVALID_DATA	Data is invalid.
INVALID_DEL_DEVICE_FORMAT	Invalid format. The format should be Delete Device <i><serialNo></i> .
INVALID_FIBRE_TYPE	Invalid Fibre Addr/Topology.
INVALID_FORMAT	Invalid record format. The record format should be operation type and a space followed by fields.
INVALID_HOSTMODE_TYPE	The program expected an integer value, but found a hex string.
INVALID_IPADDRESS	Invalid IP address.
INVALID_IPADDRESS_FORMAT	Invalid IP address format.
INVALID_LDEV_RANGE	The LDEV value is out of range.
INVALID_LDEV_SEQUENCE	Invalid LDEV value. The LDEV values must be in ascending order.
INVALID_LDEV_TYPE	Invalid LDEV value. The value should be a hex string.
INVALID_LDEV_VALUE	Invalid LDEV value. The LDEV value is out of range.
INVALID_LDEVS_TYPE	Invalid type. The format of device LDEVs in LUSE must be in hex.
INVALID_LENGTH	Invalid WWN/WWNGrpName length.
INVALID_LIST_FORMAT	The list record format is invalid. Use the help command for the actual format.
INVALID_LOAD_ENV	Problem encountered in loading the CLI operating environment.
INVALID_LUN_RANGE	The LUN ID is out of range.
INVALID_LUNID_TYPE	Invalid LUN ID value. Should be a hex string.
INVALID_LUNID_VALUE	Invalid LUN ID value.
INVALID_MOD_DEVICE_FORMAT	Invalid format. The format should be: modify device serialNo, IpAdd, location, ContactInformation.
INVALID_NICKNAME	Invalid LunGroup/WWNGroup Nickname.
INVALID_NICKNAME_LENGTH	Invalid Nickname. The LUNGrp/WWNGrp Nickname length should be 8 bytes.
INVALID_OPERATION	The specified operation is invalid.

Table 2: Error messages (Continued)

Error Message	Problem/Resolution
INVALID_PORTNAME	The port name is invalid.
INVALID_RECORD	The commands Execute/List/Help can't be part of a batch file.
INVALID_SCSID_RANGE	The SCSI ID is out of range.
INVALID_SCSID_TYPE	Invalid SCSI ID value. The value should be a hex string.
INVALID_SERIAL_NUMBER	Invalid serial number.
INVALID_SERIAL_NUMBER_TYPE	Invalid serial number. The serial number should be numeric and less than 65539.
INVALID_SWITCH_TYPE	The switch value must be ON or OFF.
INVALID_SWITCH_VALUE	Invalid value.
INVALID_TOP_CU_TYPE	Invalid CU type. The top CU should be a hex value.
INVALID_TOP_CU_VALUE	Invalid CU value. The top CU value is out of range.
INVALID_TOP_LDEV_TYPE	Invalid type. The LDEV should be a hex value.
INVALID_TOP_LDEV_VALUE	Invalid value. The top LDEV value is out of range.
INVALID_VALUE	Invalid value. The value should be a hex string.
INVALID_WWN_BYTE_SIZE	The value should be a 16 character string.
INVALID_WWN_GRP_NICKNAME_SIZE	Invalid WWN Group Nickname size. The size should be a maximum of 8 bytes.
INVALID_WWN_ID_RANGE	The WWN ID is out of range.
INVALID_WWN_NickName_SIZE	Invalid WWN Nickname size. The size should be a maximum: 8 bytes.
INVALID_WWN_TYPE	Invalid WWN type. Should be a hex string.
LIST_COUNT_FOR_VOLUME_INIT_FORMAT	Invalid list.
LIST_FORMAT	Invalid format. The format should be: list <i><OperationType></i> .
LIST_FREE_LDEVs_PER_CU_FORMAT	Invalid format. The format should be: list free_Ldevs_Per_CU [-cu <i><CU></i>].
LIST_LDEV_FORMAT	Invalid format. Use the help command to see the actual format.
LIST_LDEV_SIZE_INFO_FORMAT	Invalid format. The format should be: list ldev_Size_Info [-pg <i><ParityGroup></i>] [-cu <i><CU></i>].

Table 2: Error messages (Continued)

Error Message	Problem/Resolution
LIST_LUN_FORMAT	Invalid format. The format should be: list lun -port <portname>.
LIST_LUN_SEC_FORMAT	Invalid format. Use the help command to see the actual format.
LIST_LUNGRP_FORMAT	Invalid format. Use the help command to see the actual format.
LIST_LUNGRP_SEC_FORMAT	Invalid format. Use the help command to see the actual format.
LIST_LUSE_FORMAT	Invalid format. Use the help command to see the actual format.
LIST_PG_FREESPACE_INFO_FORMAT	Invalid format. The format should be: list pg_freespace_info [-pg <ParityGroup>].
LIST_PG_VOLUME_INFO_FORMAT	Invalid format. The format should be: list pg_Volume_Info [-pg <ParityGroup>].
LIST_WWN_FORMAT	Invalid format. Use the help command to see the actual format.
LIST_WWNGRP_FORMAT	Invalid format. Use the help command to see the actual format.
LUN_GRP_FORMAT	Invalid format. The format should be: PortName, LunGrpNickname, Luns in hex (minimum 2).
LUN_GRP_NICKNAME_FORMAT	Invalid format. The format should be: PortName, oldLunGrpNickname, NewLunGrpNickname.
LUN_GRP_SEC_FORMAT	Invalid format. The format should be: PortName, LUNGrpNickname, WWNs or WWNGroupNames.
LUN_SEC_FORMAT	Invalid format. The format should be: PortName, LUN IDs, WWNs or WWNGroupNames.
LUN_SWITCH_FORMAT	Invalid format. The format should be: PortName, ON/OFF.
LUSE_FORMAT	Invalid format. The format should be: Expand Lun TopCU, TopLdev, -limit ldevCount -Lun Portname, SCSID, LUN.
MODI_WWN_FORMAT	Invalid format. The WWN format should be: PortName, Nickname, NewWWN.
NODATA	Configuration information was not found in the file.
PATH_EXIST	The path already exists.

Table 2: Error messages (Continued)

Error Message	Problem/Resolution
PATH_FORMAT	Invalid format. The data record format should be: PortName, SCSIID, LUN, CU, Ldev.
SUCCESS	The operation was completed without errors.
VALID_DATA	The data record or file data is valid.
VOLUME_INITIALIZE_FORMAT	Invalid format. The format should be: volume initialize pgNumber, cu1, ldev1[;cu2,ldev2]...
VOLUME_TO_SPACE_FORMAT	Invalid format. The format should be: delete vsc_volumes pgNumber, cu, ldev1[;cu2,ldev2]...
WWN_DEL_FORMAT	Invalid format. The format should be: PortName, WwnNickname or WwnName.
WWN_EXIST	The WWN already exists.
WWN_FORMAT	Invalid format. The data record format should be: PortName, WWN, WWNNickname.
WWN_GRP_FORMAT	Invalid format. The format should be: PortName, WWNGrpNickname, WWNs in hex (minimum 2).

Error Codes

Table 3: XP48/XP256/XP512 error codes

Error code	Description
1000	The request of Host Mode (0xN1, 0xN2) is not matched to both of clusters ports value. Both of them must be the same.
1002	CA and/or BC volumes were tried to set the command Device.
1003	Your request was that the path to LDEV would be configured again. The path was set already from that port.
1004	Your request was that the single combination of Port, SCSI ID, and LUN would be configured for more than one volume.
1005	You tried to set the Path to the non-first LDEV at LUSE. You have to set the path to the first LDEV number at LUSE.
1007	Your request of configuration change for the port was rejected, because either you tried to delete the only single path to the CA and/or BC volume OR some host has issued I/Os to the port.
1008	You tried to set volume that did not have any path as Command Device. Or you tried to delete the only single path to the Command Device.
1009	Your request of LUSE is not any correct emulation type of open volume.
1010	Your request was to combine some LDEVs as LUSE, however that had been defined as LUSE before your request.
1011	You tried to set LDEVs of LUSE, but they were over the limitation of CU boundary.
1012	Your request of path definition of LUSE was already defined.
1013	Your request of LDEVs of LUSE had different type of emulation type.
1014	Your request of path definition of expanded volume (by LUSE) was rejected. The LUSE volume might not have any path or might lose any path.
1015	Your request of cancelation of LUSE configuration had still paths.
1016	You tried to combine CVS volume as LUSE.
1017	Your request to the DKC serial number was not existing.
1018	Your request to the port was not existing. Or your request to the port might be miss-matched such as the request to the Mainframe port.
1019	Your request to the SCSI ID was incorrect.
1020	Your request to the LUN was incorrect.
1021	Your request to the volume (CU#:LDEV#) was not existing. Or your request was to the Mainframe volume.

Table 3: XP48/XP256/XP512 error codes (Continued)

Error code	Description
1022	Your request to the Host Mode was incorrect.
1023	Your request to the FC address was incorrect.
1024	Your request to the FC topology was incorrect.
1025	Your request to the path was not existing.
1026	Your request to the LDEVs were not continuous number of LDEVs for the LUSE.
1027	Your request to the Command Device was incorrect.
1028	Your request of the combined number of LDEVs was over the specification of LUSE (Up to 36). Or, when LUSE is released, there is some LDEV that is included in the Expanded LU, and be not set.
1029	The size of CV that are combined to expanded LU, are different each other. Or, you want to combine CV and Normal Volume mixed.
1030	The area that was set for DCR is overlap to another DCR area.
1031	The size of area that was set for DCR is larger than volume size.
1032	The size of area that was set for DCR is larger than Cache size.
1033	The whole volume directions of DCR were specified to be Mainframe system volume.
1034	The classification of the specification method of DCR setting position and volume is not in agreement. (LBA number is specified to Mainframe system volume.) A cylinder number/header number is specified to be Open system volumes.
1035	The setup of required Subsystem ID is not carried out according to CVS operation.
1036	A to which the size of CV is over the range which can be set up (smaller than the minimum value and larger than maximum): The contents of specification are corrected and a demand is published again.
1037	The capacity for creating CV does not remain in Base Volume.
1038	What cannot be intermingled in the emulation type of CV was specified.
1039	It was going to perform CVS operation to the volume to which LU path is set, or the volume by which LU extension is carried out.
1040	CU number of Normal Volume differs from CU number of Base Volume.
1041	Appointed CU number and LDEV number overlap the thing of other volumes by CVS operation.
1042	The volume specified as Normal Volume by CVS operation is not Normal Volume.
1043	The volume specified as Base Volume by CVS operation is not Base Volume. Or the volume specified as CV is not CV.
1044	Two or more CVs exist in Base Volume specified by CV to Normal.

Table 3: XP48/XP256/XP512 error codes (Continued)

Error code	Description
1045	Specified Subsystem ID overlaps the existing Subsystem ID.
1046	The setting number of DCR to 1LDEV is over 16.
1047	The obstacle occurred in CVS increase-and-decrease operation.
1048	There is no specified volume or there was a deletion demand to the volume by which DCR specification is not carried out.
1049	CV by which CVS specification for decrease operation was carried out was the volume of only Base Volume.
1050	The volumes those are connected to expanded LU, include Reserved volume.
1051	In CVS operation, an error is in emulation type specification.
1052	It was going to include WWN already contained in a group in other WWN groups.
1053	It was going to collect WWN to which different access permission is set into WWN group.
1054	When specifying Install CV at the time of Normal to CV operation, CU number and LDEV number of Base Volume were not the same as CU number and LDEV number which were specified by CV.
1055	It was going to set up access permission to LUN contained in LUN group.
1056	It was going to set up access permission to WWN contained in WWN group.
1057	It was going to include LUN already contained in a group in other LUN groups.
1058	It was going to collect LUN to which different access permission is set into LUN group.
1059	It was going to perform LUN Security operation to the port which is not a Fibre port.
1060	It was going to perform LUN Security operation to LUN without LU path.
1061	LUN Security function tended to perform LUN Security operation to the invalid port.
1062	An error is in the size specification which suited the emulation type and the emulation type to specify, at the time of Install CV setup. (User specification capacity is specified to Mainframe system volume.) The number of user specification cylinders is specified to be Open system volume.
1063	It was going to register the same WWN number as what is already registered.
1064	It was going to register the same WWN as what is already registered.
1065	It was going to register the same WWN nickname as what is already registered, or WWN group nickname. (WWN nickname and WWN group nickname must not overlap mutually.)
1066	WWN number not registered was specified (at the time of deletion or change).
1067	It was going to register the same WWN group number as what is already registered.

Table 3: XP48/XP256/XP512 error codes (Continued)

Error code	Description
1068	WWN group number not registered was specified (at the time of deletion or change).
1069	It was going to register the same LUN group number as what is already registered.
1070	LUN group number not registered was specified (at the time of deletion or change).
1071	It was going to set up the functional switch to the port where WWN is not registered. (When setting a functional switch as the port where WWN is not registered, you have to register WWN simultaneously with a setup of a functional switch.) Or the same setting demand as the contents set up now was published to the same port.
1072	It was going to register the same LUN group nickname as what is already registered.
1073	It was going to set up SubSystem ID without CVS operation.
1074	CU specified at the time of CVS operation (Install CV) cannot be set up.
1075	It was intermingled in one composition information setting demand, and CVS operation (Normal to CV, CV to Normal, Install CV, Deinstall CV) was specified to be it.
1076	It was going to create Reserve volume for Auto LUN to the volume which is the pair of HODM/Hitachi TrueCopy - S/390/HP Continuous Access XP/Hitachi ShadowImage - S/390/HP Business Copy XP.
1077	It was going to create Reserve volume for Auto LUN to the volume which is Reserve of Hitachi ShadowImage - S/390/HP Business Copy XP.
1078	It was going to create Reserve volume for Auto LUN to the volume which constitutes extension LU.
1079	It was going to create Reserve volume for Auto LUN to the volume to which DCR is set.
1080	It was going to create Reserve volume for Auto LUN to the volume blockaded.
1081	It was going to create Reserve volume for Auto LUN to the volume to which the command device is set.
1082	It specified as Reserve volume for Auto LUN to the volume not existing.
1083	Reserve volume was set up as Reserve volume for Auto LUN to the volume which is setting ending.
1084	The volume specified as Reserve volume for Auto LUN is over the number (64) of the maximum assignment. Or it was going to cancel the volume more than the number registered with Reserve volume.
1085	The volume specified as Reserve volume for Auto LUN is set up as moved material volume.
1086	The volume specified as Reserve volume for Auto LUN has not supported RAID level. (An object RAID level is 1 or 5.)

Table 3: XP48/XP256/XP512 error codes (Continued)

Error code	Description
1087	The specified move start time is in specification prohibition at the time of automatic move plan creation of Auto LUN.
1088	The specified time cannot be set up at the time of Auto LUN functional parameter setup.
1089	An error is in the form of the specified date at the time of Auto LUN composition change.
1090	An error is in the form of the specified time at the time of Auto LUN composition change.
1091	The specified date cannot be set up at the time of Auto LUN composition change.
1092	The specified time cannot be set up at the time of Auto LUN composition change.
1093	The specified total term is outside the range of a totaled term at the time of a total command setup of Auto LUN.
1094	The deletion demand was carried out to the volume which is not Reserve volume, at the time of Reserve volume release for Auto LUN.
1095	Reserve volume which can be assigned does not exist at the time of HISHM volume move start (under use).
1096	The setup of Reserve volume for Auto LUN was demanded from the volume to which the path group is set.
1097	The composition change demand was carried out to the function in which it does not support.
1098	The setup of the rate of the class maximum use was demanded from the class number not registered.
1099	The setup of a fixed parity group was demanded from FB4 number not registered or the parity group number.
1100	There is less affiliation WWN to WWN group than two.
1101	CVS operation (Deinstall CV) was demanded from non-mounted volume.
1102	LDEV you tried to delete is the only Normal LDEV in the Parity Group. You cannot delete it by VSC Operation.
1103	The specific parity group is not configured in the Array.
1104	The SubSystem ID (SSID) can be set only by performing VSC operation.
1105	For the VSC operation, LDEV IDs assigned exceeds the number which can be set.
1106	The Path setting request was carried out to the Reserve-Volume for Auto LUN. Correct the contents of specification and send a composition information setting demand again.

Table 3: XP48/XP256/XP512 error codes (Continued)

Error code	Description
1107	The Reserve-Volume setting request for Auto LUN was carried out to the volume to which the Path is set. Correct the contents of specification and send a composition information setting demand again.
1108	The setting request of the Command -Device was carried out to the Reserve-Volume for Auto LUN. Correct the contents of specification and send a composition information setting demand again.
1110	Nickname is having an invalid character in the LUN Security Configuration Change request.
1111	Nickname is not specified in the LUN Security configuration change request.
1112	For the Auto LUN related configuration change request, the LDEV is set to migrate to the same RAID group.
1201	CHA High-Speed Mode specification was carried out. There is the Path which cannot set High-Speed mode into the specified Port. The parameter is changed into the path in which a High-Speed Mode setup is possible, and send a composition information setting demand again.
1202	CHA High-Speed Mode specification was carried out. There is the Host mode which cannot set High-Speed mode into the specified Port. The parameter is changed into the Host-Mode in which a High-Speed Mode setup is possible, and send a composition information setting demand again.
1203	CHA High-Speed Mode specification was carried out. There is the Fibre Address which cannot set High-Speed mode into the specified Port. The parameter is changed into the Fibre address in which a High-Speed Mode setup is possible, and send a composition information setting demand again.
1204	CHA High-Speed Mode specification was carried out. There is the Topology which cannot set High-Speed mode into the specified Port. The parameter is changed into the Topology in which a High-Speed Mode setup is possible, and send a composition information setting demand again.
1205	CHA High-Speed Mode specification was carried out. There is the Fibre PCB which cannot set High-Speed mode into the specified Port. The parameter is changed into the Fibre PCB in which a High-Speed Mode setup is possible, and send a composition information setting demand again.
1206	It cannot set by request because there is the CHA which is not set mode. Set the mode of the CHA, and send a composition information setting demand again.
1207	In the volume migration request, there are different points between Source volume and Target volume (ex: Track format, Number of Cylinder, etc.). Set same formatted volumes for Source and Target.
1208	In the volume migration request, the emulation type of the source volume is not supported type. Change request to set another source volume.

Table 3: XP48/XP256/XP512 error codes (Continued)

Error code	Description
1209	In the volume migration request, the emulation type of the target volume is not supported type. Change request to set another target volume.
1210	In the volume migration request, the number of the migration volumes are over the upper limit. Wait to complete other migration request or Cancel other migration request.
1211	In the volume migration request, the combination between the source volume and target volume is not supported combination. Change request to set another source volume or target volume.
1212	In the volume migration request, the source volume that is request is not installed. Change request to set another source volume.
1213	In the volume migration request, the source volume is blocked. Change request to set another source volume.
1214	In the volume migration request, the source volume is formatting now. Wait to complete a format.
1215	In the volume migration request, the source volume that is requested, is Command Device. Change request to set another source volume.
1216	In the volume migration request, the target volume that is defined is not installed. Change request to set another target volume.
1217	In the volume migration request, the target volume is blocked. Change request to set another target volume.
1218	In the volume migration request, the target volume is formatting now. Wait to complete a format.
1219	In the volume migration request, the target volume that is defined is Command Device. Change request to set another source volume.
1220	In the volume migration request, the target volume that is defined is not Reserve Volume of Auto LUN. Define the target volume to be Reserve Volume of Auto LUN.
1221	In the volume migration request, the source volume that is defined has been set to be the target volume of another request already. Change request to define another volume for source volume.
1222	In the volume migration request, the source volume that is defined has been set to be the source volume of another request already. Change request to define another volume for source volume.
1223	In the volume migration request, the target volume that is defined has been set to be the target volume of another request already. Change request to define another volume for target volume.

Table 3: XP48/XP256/XP512 error codes (Continued)

Error code	Description
1224	In the volume migration request, the target volume that is defined has been set to be the source volume of another request already. Change request to define another volume for target volume.
1225	In the volume migration request, the target volume and the source volume are defined to be same volume. Change request to define another volume.
1226	In the volume migration request, the source volume that is defined is "Primary Volume" of Hitachi TrueCopy - S/390/HP Continuous Access XP. Change request to define another volume.
1227	In the volume migration request, the source volume that is defined is "Secondary Volume" of Hitachi TrueCopy - S/390/HP Continuous Access XP. Change request to define another source volume.
1228	In the volume migration request, "RAID Level" of the source volume is not supported. Change request to define another source volume.
1229	In the volume migration request, the source volume that is defined is "Primary Volume" of Hitachi ShadowImage - S/390. Change request to define another volume.
1230	In the volume migration request, the source volume that is defined is "Secondary Volume" of Hitachi ShadowImage - S/390. Change request to define another source volume.
1231	In the volume migration request, the source volume that is defined is "Primary Volume" of HODM. Change request to define another source volume.
1232	In the volume migration request, the source volume that is defined is "Root Volume" of Hitachi ShadowImage - S/390. Change request to define another source volume.
1233	In the volume migration request, the source volume that is defined is "Node Volume" of Hitachi ShadowImage - S/390. Change request to define another source volume.
1234	In the volume migration request, the target volume that is defined is "Primary Volume" of Hitachi TrueCopy - S/390/HP Continuous Access XP. Change request to define another target volume.
1235	In the volume migration request, the target volume that is defined is "Secondary Volume" of Hitachi TrueCopy - S/390/HP Continuous Access XP. Change request to define another target volume.
1236	In the volume migration request, "RAID Level" of the target volume is not supported. Change request to define another target volume.
1237	In the volume migration request, the target volume that is defined is "Primary Volume" of Hitachi ShadowImage - S/390. Change request to define another target volume.
1238	In the volume migration request, the target volume that is defined is "Secondary Volume" of Hitachi ShadowImage - S/390. Change request to define another target volume.

Table 3: XP48/XP256/XP512 error codes (Continued)

Error code	Description
1239	In the volume migration request, the target volume that is defined is "Primary Volume" of HODM. Change request to define another target volume.
1240	In the volume migration request, the source volume that is defined is "Reserve Volume" of Hitachi ShadowImage - S/390. Change request to define another source volume.
1241	In the volume migration request, the source volume that is defined has been set DCR. Change request to define another source volume.
1242	In the volume migration request, the target volume that is defined has been set DCR. Change request to define another target volume.
1243	In the volume migration Cancel request, the volume that is requested cancel, is not defined the migration or completed the migration already. Change request
1244	In the volume migration request, it is impossible to create the "PLAN" that is defined. The reason is the following. The Load is too heavy than defined condition. There is the volume that load is too much. There is not enough Reserve Volume for Auto LUN.
1245	Over the upper limit of Request(Instance) Number for the prediction data of Utilization. Delete the instance that is not used.
1246	In the request of Auto LUN configuration data change, more than one same request is set in one PDU. Same type set request send by each other PDU.
1247	In the request of Auto LUN configuration data change, DKP Number that is specified in the request is incorrect. Change Request and re-send Set-Request.
1248	In the request of Auto LUN configuration data change, CHP Number that is specified in the request is incorrect. Change Request and re-send Set-Request.
1249	In the request of Auto LUN configuration data change, BUS Number that is specified in the request is incorrect. Change Request and re-send Set-Request.
1250	In the request of Auto LUN configuration data change, DRR Number that is specified in the request is incorrect. Change Request and re-send Set-Request.
1251	In the request of Auto LUN configuration data change, LDEV Number that is specified in the request is incorrect. Change Request and re-send Set-Request.
1252	In the request of Auto LUN configuration data change, ECC Group Number that is specified in the request is incorrect. Change Request and re-send Set-Request.
1253	In the request of Auto LUN configuration data change, MPA Number that is specified in the request is incorrect. Change Request and re-send Set-Request.
1254	In the request of Auto LUN configuration data change, CARB Number that is specified in the request is incorrect. Change Request and re-send Set-Request.
1255	In the request of Auto LUN configuration data change, Cache Number that is specified in the request is incorrect. Change Request and re-send Set-Request.

Table 3: XP48/XP256/XP512 error codes (Continued)

Error code	Description
1256	In the request of Auto LUN configuration data change, SM Number that is specified in the request is incorrect. Change Request and re-send Set-Request.
1257	In the request of Auto LUN configuration data change, Combination between MPA and CARB that is specified in the request is incorrect. Change Request and re-send Set-Request.
1258	There is nothing the port that is defined. (Incorrect number, Not Fibre port). Change Request and re-send Set-Request.
1259	When change request to the configuration data of port control, set the upper limited value to the priority port. Change Request and re-send Set-Request.
1260	When change request to the configuration data of port control, set the threshold level to the non priority Port. Change Request and re-send Set-Request.
1261	Path cannot be configured for the LDEV which is reserved for On-Demand.
1262	Command Device setting cannot be configured for the LDEV which is reserved for On-Demand.
1263	The LUSE related configuration change cannot be executed for LDEV which is reserved for On-Demand.
1264	The LDEV cannot be reserved for Auto LUN as it is reserved for On-Demand.
1266	Auto LUN Manual Migration was requested for LDEV which is reserved for On-Demand.
1267	Auto LUN Auto Migration was requested for LDEV which is reserved for On-Demand.
1268	When change request to the configuration data of port control, both of the threshold level for Total priority Port and priority port are set at same time. Change Request and re-send Set-Request.
1269	The priority mode change failed as Host I/Os are in progress.
1270	WWN is not specified in the configuration change request of PPC.
1273	Specified WWN is not configured in the array.
1280	Parity Group which is not configured as On-Demand has been specified.
1282	You cannot combine On-Demand, LUN Mgmt Operation and Cache LUN operation in a single configuration change request.
1283	Specified Parity Group is reserved for On-Demand operations.
1290	You are trying to install a Temporary key within 180 days after the expiry of the last Temporary Key that was installed or trying to install a Temporary Key when already a Temporary Key is installed.
1291	Capacity of License Key that you are trying to install is insufficient. Please get License Key that is of adequate capacity.

Table 3: XP48/XP256/XP512 error codes (Continued)

Error code	Description
1292	Permanent License Key that you are trying to install is not correct or is of inadequate capacity.
1293	You are trying to install a temporary or emergency License Key when you already have a Permanent Key installed for the software.
1294	The Uninstall Operation of the License Key for software is not done properly. Kindly try to Uninstall it again.
1295	License Key code is incorrect. Please install the correct License Key.
1296	The Licensed Software that is needed before the particular software license that you are trying to install, is not installed.
1297	The License Key is not installed for the particular product. Please get the license key by contacting the HP Product Support.
1298	Both Install and Uninstall commands cannot be executed in same SET operation. Kindly send these commands separately.
1299	Multiple Uninstall requests were sent in a single SET Request.
2000	Your request was rejected because somebody operated to the RC.
2001	SetRequests of configuration or GetRequest were issued at the initial state. At that time R.C. did not have any MIB information to the request. This message may occur at the first operation without Refresh Request.
2002	Your request was failed, because of connection issue between R.C. and SVP. Or you request too early timing, SNMP agent did not start yet.
2003	Request to read information from SVP failed. SVP may be running low on resources. Please have HP representative verify proper SVP RAM configuration and verify that no unsupported applications are running on the SVP.
2004	Mandatory files (Windows DLL/EXE files etc.) could not be loaded for the SNMP operation.
2005	Minimum capacity of memory was not assigned for the operation.
2006	Your environment did not include all of needed program product. (Ex: LUN configuration Manager XP or R.C. system resources.)
2007	Your request of LUSE configuration was rejected, because LUN configuration Manager XP was not installed. (R.C. program/LUNM/LUSE)
2008	Your request of LUN security was rejected, because Secure Manager XP was not installed. (R.C. Program/LUN Security).
2009	Your request was rejected, because the version of SVP/DKC was incorrect.
2010	Your request of configuration change of port was rejected, because some hosts issued I/Os to the port and the closed port request was rejected.

Table 3: XP48/XP256/XP512 error codes (Continued)

Error code	Description
2011	There might be hardware error. Also, array microcode may have been installed incorrectly. Have your HP service representative re-install the DKC microcode.
2012	There might be the failure of port.
2013	There might be the failure at download.
2014	There might be recoverable error of Port.
2015	Your request was rejected, because of SVP operation.
2016	Your request was rejected, because of SVP operation.
2017	SNMP Agent released the lock state that was issued from somebody. Because he did not reissue lock request as the health check at regular interval.
2018	XP256: DCR for open required in order to perform the concerned composition information setting demand (P. P. Name: RC Program/Open DCR or Cache LUN) is not installed. XP48/XP512: License Key for Cache LUN is not installed. Please install the same to perform any Cache LUN SET operation.
2019	XP256: CVS for open required in order to perform the concerned composition information setting demand (P. P. Name: RC Program/Open CVS or LUN Manager) is not installed. XP48/XP512: License Key for LUN CONFIGURATION MANAGER XP is not installed. Please install the same to perform any VSC SET operation.
2020	DCR for Mainframe required in order to perform the concerned composition information setting demand (P. P. Name: RC Program/DCR or D.C.R) is not installed.
2021	CVS for Mainframe required in order to perform the concerned composition information setting demand (P. P. Name: RC Program/CVS or C.V.S) is not installed.
2022	A in CVS execution: Since SVP and DKC are CVS processing, time is set and a composition information setting demand is published again.
2023	XP256: Auto LUN (P. P. name:P.P. name:RC Program/Auto LUN or) required in order to perform the concerned composition information setting demand is not installed. XP48/XP512: License Key for Auto LUN XP is not installed. Please install the same to perform any Auto LUN SET operation.
2024	At the time of Auto LUN composition change, the obstacle occurred.
2025	At the time of Auto LUN composition change, the obstacle occurred.
2026	Use in common at the time of Auto LUN composition change. The obstacle occurred.
2027	The power-supply obstacle occurred at the time of Auto LUN composition change.
2028	It is [PS] under OFF at the time of Auto LUN composition change.

Table 3: XP48/XP256/XP512 error codes (Continued)

Error code	Description
2029	At the time of Auto LUN composition change, the transmission obstacle (CHA) occurred.
2030	At the time of Auto LUN composition change, the transmission obstacle (DKA) occurred.
2031	The version of RMC, DKC, and SVP is not in agreement.
2032	The connection between DKC -SVP is busy. Wait a just moment, and re-try from Refresh Request.
2033	The Configuration data is changing in SVP. Wait a just moment, and re-try from Refresh Request.
2034	XP256: PP for Port Control is not installed. Install PP that is needed to port control. XP48/XP512: License Key for PORT CONTROL RESOURCE MANAGER is not installed. Please install the same to perform any PORT CONTROL RESOURCE MANAGER SET operation.
2035	Possible Auto LUN initialization problem. Go to on-line FAQ under Command View "Support" tab. See item on "Possible Auto LUN initialization problem" for more information.
2036	Required Data cannot be collected for Auto LUN.
2037	Please check the DKC status. If the problem persists on retrying the operation, please contact the HP Product Support.
3000	SNMP Agent could not get the pointer of some external functions.
3001	SNMP Agent could not get the pointer of some external functions for the trace information.
3002	SNMP Agent deleted the failure of logical interface the functions
3003	SNMP Agent detected internal logical error. Possible Auto LUN initialization problem. Go to on-line FAQ under Command View "Support" tab. See item on "Possible Auto LUN initialization problem" for more information.
3004	There was not the management directory of MIB.
3005	SNMP Agent failed to write the management data on the management directory of MIB.
3006	There was some error of mandatory files for the SNMP Agent.
3007	An internal logical error happened in the Agent. Please contact the HP Product Support.

Table 4: XP128/XP1024 error codes

Error code	Description
10999	Failed to create internal worker thread. If this problem persists, please call the HP Product Support.
11000	Failed to wait for internal event (Base). If this problem persists, please call the HP Product Support.
11001	Failed to send internal message (Base). If this problem persists, please call the HP Product Support.
11002	Failed to create the window for internal process. If this problem persists, please call the HP Product Support.
11003	Failed to register the window class. Please call the HP Product Support.
11004	An error occurred. If this problem persists, please call the HP Product Support.
11005	An error occurred. If this problem persists, please call the HP Product Support.
11006	An error occurred. If this problem persists, please call the HP Product Support.
11007	An error occurred. If this problem persists, please call the HP Product Support.
11999	Failed to create shared memory. Please call the HP Product Support.
12000	Failed to access shared memory. Please call the HP Product Support.
12001	Failed to reserve memory. Please call the HP Product Support.
12004	An error occurred. If this problem persists, please call the HP Product Support.
12999	An error in the sequence of the operations occurred. Please report this to the HP Product Support.
13000	The number of SET operations you are trying to perform exceeds the MAX limit (8192)
13001	Internal CV Server error. Please file a bug or contact the HP Product Support and report the error.
13999	An error occurred. If this problem persists, please call the HP Product Support.
14000	Failed to access the file. Please call the HP Product Support.
14002	Invalid user ID used for login. Please input the correct user ID and try to log in again. If this problem persists, please call the HP Product Support.
14003	Invalid password. Please input the correct password and try to log in again. If this problem persists, please call the HP Product Support.
14004	Invalid internal logic. Please call the service personnel.
14005	The IP address of the server cannot be obtained. Login is not possible. Please call the HP Product Support.

Table 4: XP128/XP1024 error codes (Continued)

Error code	Description
14006	Remote Registry could not be contacted. An error occurred. If this problem persists, please call the HP Product Support.
14007	Invalid URL. An error occurred. If this problem persists, please call the HP Product Support.
14008	The name is already bound to the registry. Please call the HP Product Support.
14009	Internal Server Error. Please contact HP Product Support.
14010	The Client session has been logged out. CV will retry to log in and establish the connection with the array.
14011	The number of connections allowed to RMI Server is 32. The number of users logged in to the server at present has attained this value. Please wait for sometime and retry.
14012	The RMI server configuration is invalid. Please call the HP Product Support.
14019	Network error detected; exclusive lock is released. CV will be trying to lock the array again.
15074	Invalid key code. Please check the request for setting and re-execute the operation.
15131	You cannot log on because the specified user ID is already being logged on, or because the termination process in the previous logon was not performed properly. Log on with other user's ID. There is a possibility that the termination process in the previous log-on was invalid. (Terminated by pressing the end button of the browser.) After RMI Time-out (default 1 min.), log on again.
15507	Administrator is changing the system environment. (Changing CGI file). Please wait for a while and log in again.
15508	Forced cancel of Modify is executed. Re-execute Modify.
15513	Result of canceling forced Modify. It cannot be executed when some other manager is holding the lock through SNMP or SVP is in Modify.
15515	Result of canceling forced Modify. The user has not logged on or has not exclusively locked the array.
15516	Result of canceling forced Modify. When the argument 0 is specified, the forced Canceling forced Modify whose configuration is being changed is not executed. Specify the argument 1 (Cancel Modify while the configuration is changed), or wait for the completion of configuration change, and re-execute canceling forced Modify.
15517	Result of forced log off. Since the users other than those execute forced log off do not exist, the forced log off cannot be executed. While other user is logged on, execute the forced log off.
15518	Result of the forced log off. The user specified by the argument has not logged on. After re-executing the user specification that you want to log off with the argument, re-execute the operation.

Table 4: XP128/XP1024 error codes (Continued)

Error code	Description
15519	Result of the forced log off. When specifying 0 in argument, do not execute the forced log off when data is being acquired (When getting) or when the configuration is being changed (When setting). Specify the argument 1 (Execute log off during the data is acquired or during the configuration is changed), or wait for the completion of data acquisition or configuration change, and re-execute forced log off.
15520	Results of environment timer acquisition/setting. The specified timeout name does not exist. Set the correct timeout name of the argument number for acquisition, and set the correct timeout name of the setting class for setting.
15521	Result of setting environment timer. The specified timeout value is out of the scope. Set the correct timeout value of the setting class.
15522	The environment file, env.csv, cannot be opened. CGI is being updated, or update is in process in Set. Please wait for the completion of CGI update or update in Set, and re-execute the operation. env.csv should be opened.
17049	Inconsistent number of the registered data conversion tables. Please call the HP Product Support.
21999	Failed to reserve memory. Please call the HP Product Support.
22000	Failed to create internal worker thread. Please call the HP Product Support.
22001	Failed to create shared memory. Please call the HP Product Support.
22002	Failed to access shared memory. Please call the HP Product Support.
22003	An error occurred. If this problem persists, please call the HP Product Support.
22004	Internal logical inconsistency. Please call the HP Product Support.
22005	Failed to create the window for internal process. Please call the HP Product Support.
22006	Failed to open the environment file. If this problem persists, please call the HP Product Support.
22007	Failed to access the environment file. If this problem persists, please call the HP Product Support.
22008	Failed to access the environment file (Illegal format). If this problem persists, please call the HP Product Support.
22009	Invalid emulation type. The CV server configuration is not valid. Please call the HP Product Support.
22010	Failed to access the environment file (File does not exists). Please call the service personnel.
22011	Requests for configuration change of different products received at the same time. Please contact the HP Product Support.

Table 4: XP128/XP1024 error codes (Continued)

Error code	Description
22013	Internal logical inconsistency. If this problem persists, please call the HP Product Support. Please contact the HP Product Support.
22014	Array cannot be managed presently because some other manager may be trying to manage the array. Wait for a while and reissue the request.
25038	The maximum number which can be processed was exceeded. Please reduce the number of requests and try again.
25128	An error in the sequence of the operations occurred. Please report this to the HP Product Support.
25508	Array cannot be managed presently because some other manager may be trying to manage the array. Wait for a while and reissue the request.
25511	Path and host group cannot be deleted at the same time. Please perform the delete of Path and Host Group separately.
26000	Event creation failed. Please call the service personnel.
26010	An error occurred. If this problem persists, please call the HP Product Support.
26020	Failed to open the environment file. Please call the service personnel.
26021	Failed to access the environment file. Please call the service personnel.
26500	SVP is busy. Please wait for a while and retry.
27028	An internal error occurred. Please try your operation again. If this problem persists, please contact your HP support representative.
27058	Internal logical error. If this problem persists, please call the HP Product Support.
27209	Serial number for the device not registered. Please call the HP Product Support.
28998	Another user has locked the Array. Please try again later.
28999	No right to unlock. An error occurred. If this problem persists, please call the HP Product Support.
29997	Error of the unsupported function. Please check the set data and re-execute the operation. If the problem persists after a few tries, please call the HP Product Support.
30999	Command device is set for the volume used in HP Continuous Access XP or HP Business Copy XP. Please check the setting.
31000	You are trying to set multiple paths to the same volume from one group. Please check the setting.
31001	You are trying to set multiple volumes to one group of port/group ID/LUN. Please check the setting.
31002	Path cannot be set to unmounted volumes, LDEVs other than the top expanded LUSE, reserved volume for Auto LUN and LDEVs set to On-Demand. Please check the setting.

Table 4: XP128/XP1024 error codes (Continued)

Error code	Description
31004	Failed to remove the path. The specified path is the last path of TrueCopy/ShadowImage volume. Please Correct the contents of LU path setting, and request the setting of the configuration information again.
31006	The emulation type of the LDEV to be combined as a part of LUSE is not an open volume. Please check the setting.
31007	You are trying to set the LUSE including already expanded LU. Please check the setting.
31008	The volume to be combined as a LUSE extends over CUs. In LUSE, all LDEVs should belong to same CU number. Please check the setting.
31009	LU path is set to the volume to be combined as a LUSE. Please check the setting.
31010	The emulation types of the volumes to be combined as an expanded LUSE are not the same. If you want to set the LUSE, you should select LDEVs of same emulation, same capacity, and same volume attribute (either all should be Normal Volume or all should be Custom Volume).
31012	LU path is set to the expanded LUSE to be released. Please release the path of the target volume first, and then disperse the LUSE.
31015	The port specified as the element of the configuration change does not exist. Unmounted port or mainframe port might be specified. Please check the port specified.
31017	Invalid LUN. Please check the setting.
31018	The specified volume does not exist. Unmounted volume or mainframe volume might be specified. Please check the port specified.
31019	Invalid host mode. Please check the setting.
31021	Invalid Fibre topology information. Please check the setting.
31022	The specified LU path does not exist. Please check the setting.
31024	The specified value of the command device setting is invalid. Please check the setting.
31025	The number of volumes that can be combined as an expanded LU is exceeded. (MAX.36). Please check the setting.
31026	The capacities of the volumes to be combined as an expanded LU are not the same. Or, you are trying to mix Customized Volume and the normal volume (Native Volume). If you set the expanded LU, set the same emulation, the volume of the same capacity, and the same volume attribute (Native Volume or Customized Volume: cannot be mixed).
31028	The extent set to Cache LUN exceeds the value which can be set in the target volume. Since the Cache LUN extent which can be set by the volume is variable, check the emulation type of the target volume. For details, call the HP Product Support.

Table 4: XP128/XP1024 error codes (Continued)

Error code	Description
31030	Entire volume instructions of Cache LUN needs to be specified. Please specify START and END LBAs.
31031	The method of specifying the Cache LUN setting position and the volume type do not match. Please specify the cylinder number/header number for mainframe volumes. For open volumes, specify the LBA numbers.
31032	SSID is not set for the VSC operation. Please contact the HP Product Support.
31033	The size specified during Customize Volume setting is out of the extent. (The value set is smaller than the minimum value, or larger than the maximum value). Note that the size depends on the emulation type of the target volume.
31034	The capacity for CV creation does not exist in the logical parity group. When setting, note that the number of the LDEVs stored in the PG is different depending on the drive type and RAID type. For details, please call the HP Product Support.
31035	The CV emulation type which cannot be mixed is specified. Or, the unsupported emulation type is set. The definition is different depending on the emulation type. For details, contact the HP Product Support.
31036	In the VSC operations, LDEVs with path assigned, part of LUSE and with LDEV Security ON cannot be used.
31037	Internal logical error occurs. Please contact the HP Product Support.
31038	The CU number and LDEV number set in the VSC operation overlap with those of other volumes. Please check the setting.
31039	Cache LUN settings needs to be specified while performing prestaging operation.
31040	Operation is instructed to the logical parity group which is not mounted in the VSC operation. Please check the setting.
31041	During the VSC operation (Volume Initialize), the number of the volumes specified doesn't match the number of normal volumes that needs to be restored. Please check the settings.
31042	The Specified Sub-System ID already exists. Please Contact the HP Product Support.
31045	Request for Cache LUN release is given to the unmounted volume or the volume with no Cache LUN settings. Please check the setting.
31046	During the VSC operation (Volume Initialize), CV is not set in the target logical parity group. Please check the setting.
31047	When changing the LUSE configuration, LDEVs reserved for Auto LUN and On-Demand volumes cannot be used.
31048	Wrong emulation type specified for VSC operation.
31056	LUN security settings cannot be given for ports other than Fibre Ports. Please check the settings.

Table 4: XP128/XP1024 error codes (Continued)

Error code	Description
31058	LUN Security is not enabled for the particular port.
31059	During the CVS operation, the wrong emulation type and the wrong size which matches the emulation type are specified. For mainframe volumes, specify the user-specified number of the cylinder. For the open volumes, specify the user-specified capacity.
31060	The specified WWN number is already registered in the Array. Please specify another WWN.
31062	The Host Group nickname or WWN nickname is already registered. Please check the settings.
31063	The WWN is not registered. Please check the settings.
31064	The Host Group that you are trying to register is already registered.
31065	The unregistered host group is specified. Please correct the specified contents.
31071	The CU specified during the CVS operation (Install CV) cannot be set. Correct the specified contents.
31072	VSC operations (Initialize, Install CV, Delete LDEV) are specified in a single request for the configuration information setting. This combination of settings is not allowed.
31098	The VSC operation is requested for the unmounted volume. Please check the settings.
31099	The volume(s) you tried to delete is/contains the last volume in the Parity Group. Last Normal Volume cannot be deleted in a Parity Group.
31100	The parity group is not mounted in the VSC operation. Please check the settings.
31101	SSID not being set in the VSC operation. Please report to the HP Product Support.
31102	The number of the LDEV IDs which can be set in the VSC operation is exceeded. (MAX.CU:0-31/LDEV:0-255). Note that the LDEV ID (Upper limit of CU) which can be used is determined with the SM capacity. For details, call the support center.
31105	When changing the command device configuration, you cannot set the following items. 1) Reserve volume for Auto LUN, 2) On-Demand volume, 3) Volume other than OPEN volume (including unmounted volume) Please check the volume where the command device is set.
31108	Nickname is not specified when the change of the LUN Security configuration is requested. Please specify the nickname and perform the configuration change request.
31110	The LDEV tried to be created in the VSC operation is being used as the HPAV function. Change the specified volume ID, or cancel the HPAV settings.
31113	The value is not specified in WWN registration. Or, 0 is set to the value for WWN. Please set the value for WWN and perform the configuration change request again.

Table 4: XP128/XP1024 error codes (Continued)

Error code	Description
31120	The setting of the command device security is requested, but the setting of the command device for the target volume is not performed. When setting the command device security, set the command device in advance or concurrently.
31121	The methods of setting the command device/command device security are wrong. The following cannot be set for the same volume. 1) Setting command device + Releasing command device security, 2) Releasing command device security + Setting command device security. Correct the specified contents.
31122	In WWN registration, the host group where the WWN is registered does not exist. Correct the specified contents.
31123	Command Device cannot be set for an expanded volume.
31124	Though CHA high-speed mode is specified, it is specified to the unmounted CHA. Please check the channel package.
31125	Though the channel speed is requested to change, Fiber PCB is the unsupported version. Please check the channel package.
31126	For WWN related configuration change requests in LUN Security operations, the number of WWNs that can be registered (max. 255) per port is exceeded. Please check the settings.
31127	Invalid character is used when HOST GROUP and WWN are registered. Please change the name and try the configuration change request.
31128	For host group related configuration change request (add/delete/change), the maximum number that can be set for a port is already reached. (range : 0-127)
31129	For WWN related configuration change requests (add/change), the maximum number that can be set for a port is already reached (range is 0 - 254). Please check the settings.
31130	Configuration change request contains number of host mode settings which exceeds the maximum number if host group IDs in the port. Please check the setting.
31131	Configuration change requests contains number of path settings which exceeds the maximum number which can be set in the port.
31132	When the PORT information (Fibre Address/Fibre Topology/Channel Speed) is set, multiple instructions on change are set to the same PORT. Please check the setting.
31133	When the CHA high-speed mode is set, multiple instructions on change are set to the same PORT. Please check the setting.
31134	Configuration change request contains number greater than the maximum number of LUSE (MAX.4096). Please check the setting.
31137	The Port Group settings needs to be canceled/deleted before performing this operation.
31138	DKC is in the BUSY status. Please wait for a while and resume the operation.

Table 4: XP128/XP1024 error codes (Continued)

Error code	Description
31139	The LDEV has LDEV Security set. Please switch off the LDEV Security before performing the operation.
31140	An internal CV Server error occurred. Please report this to the HP Product Support.
31141	VSC operation involves LDEVs which are part of LUSE. Please disperse the specific LDEVs and perform the operation again.
31198	Though the CHA high-speed mode is specified, the high-speed mode cannot be set to some of the specified paths. (CHA speeds are not the same.) Please check the setting.
31200	Though the CHA high-speed mode is specified, the high-speed mode cannot be set to some of the specified ports. (Fibre Addresses are not the same). Please check the setting.
31201	Though the CHA high-speed mode is specified, the high-speed mode cannot be set to some of the topologies in the specified port. (FC-AL specifications are not the same). Please check the setting.
31347	Since the port to which the path is tried to be set is the port for CA, it cannot be used. Change the attribute of the target port to TarGet or RCU TarGet in order to enable the path setting.
31348	Some ports to which the CHA high-speed mode is set have the different attributes. When setting the CHA high-speed mode, set the same port attributes.
31349	Since the port for which you had performed the configuration change request has the logical paths for CA, it cannot be changed. Delete the logical paths, and re-issue the request for configuration change.
31350	Since the port for which you had performed the configuration change request has the S-VOL logical paths, it cannot be set. You need to delete and set the S-VOL logical paths which is set to the RCU TarGet port. Re-issue the request for configuration change.
31351	Since the port for which you had performed the configuration change request is the Initiator Port of CA, it cannot be changed. Please change the port attribute. (Change to TarGet or RCU TarGet attribute.)
31352	Since the port for which you had performed the configuration change request is the Initiator Port of CA, it cannot be changed. Please change the port attribute. (Change to TarGet or RCU TarGet attribute.)
31353	Since the port for which you had performed the configuration change request is the Initiator Port of CA, it cannot be changed. Please change the port attribute. (Change to TarGet or RCU TarGet attribute.)
31354	The port tried to be set is the port for Fibre TrueCopy; it cannot be set. Please delete the logical path and perform the configuration change operation again.

Table 4: XP128/XP1024 error codes (Continued)

Error code	Description
31597	Key for LUN Management Product is not installed or has expired. To perform any operation related with LUN Management, you need to install a valid key. Please contact HP Product Support.
31598	Key for Open Volume Management is not installed or has expired. To perform any operation related with Open Volume Management, you need to install a valid key. Please contact HP Product Support.
31599	Key for Volume Management Product is not installed or has expired. To perform any operation related with Volume Management, you need to install a valid key. Please contact HP Product Support.
31600	License for Open Cache Management is not installed or has expired. To perform any operation related with Cache Management, you need to install a valid key. Please contact HP Product Support.
31601	License for using the Cache Management function is not installed or has expired. To perform any operation related with Cache Management, you need to install a valid key. Please contact HP Product Support.
31999	Connection for communication between DKCs (SVPs) is failed. Please check the setting of LAN. After the check, if the problem persists, please contact the HP Product Support.
32000	Failed to obtain the configuration information. Confirm that the status from SVP to DKC is normal. After the confirmation, if the problem persists, please contact the HP Product Support.
32001	The file required by the application cannot be loaded. Memory could be insufficient. Reboot the SVP and re-execute. If the problem persists, please contact the HP Product Support.
32002	Memory required by the application cannot be reserved.
32003	The specified Port doesn't exist or is a Main Frame specific.
32006	The versions of the SVP and the microprogram of DKC do not match. Please check the versions of the SVP and the microprogram of the DKC.
32007	The I/O from the host to the target path/volume may be sent. Please check if I/O from the host to the target path/volume occurs.
32008	Please check the status of DKC (if it is blockaded). After the check, if the problem persists, call the service personnel.
32009	Port blockade error occurs. Please contact the HP Product Support.
32010	Download error occurs. Please contact the HP Product Support.
32011	Port recovery error occurs. Please contact the HP Product Support.
32012	Communication failure while connecting to Array. Please check the setting of the LAN. After the check, if the problem persists, please contact HP Product Support.

Table 4: XP128/XP1024 error codes (Continued)

Error code	Description
32013	The Array is locked by another manager through SVP or SNMP.
32014	Communication failure while connecting to Array. The exclusive lock on the array is lost.
32019	VSC related configuration change is being processed in DKC. Please wait for a while and re-issue the request for configuration change.
32030	Internal Processing is being done on Array. The Server is not ready yet. Please try the operation after some time.
32077	Cache LUN prestaging operation failed. I/O may have taken place. Please wait for a while and re-execute the operation.
32078	A failure occurs during the VSC installation/delete LDEV process. Please contact the HP Product Support.
32079	The operation cannot be performed as a host is mounted or a cluster configuration is set.
32080	An error occurs during the process of configuration change in DKC. Please check the status of DKC, and then check the status of the current configuration set. If necessary, re-execute the setting operation. If the problem persists, please call the HP Product Support.
32081	The results of the configuration change is unclear. Please check the status of DKC, and then check the status of the current configuration set. If necessary, re-execute the setting operation. If the problem persists, please call the HP Product Support.
32082	VSC operation cannot be performed. (During COPY for Remote Copy/ShadowImage). Please wait for a while and re-execute the operation.
32083	VSC operation cannot be performed. (Remote Copy/ShadowImage configuration is defined). Please cancel the configuration settings of Remote Copy/ShadowImage, and then re-execute the operation.
32084	VSC operation cannot be performed. (Varied Online from the M/F host). Please bring the M/F host to Offline mode.
32085	VSC operation cannot be performed. (Hitachi TrueCopy - S/390 is being suspended). Please add the alternate path.
32086	VSC operation cannot be performed. (The target CHA may contain the last path of Remote Copy between MCU and RCU.) Please confirm that the alternate path exists from MCU.
32087	VSC operation cannot be performed. (ShadowImage setting exists). Please cancel the ShadowImage setting, or stop the I/O and then re-execute the operation.
32088	VSC operation cannot be performed. (Backup server of ShadowImage is in operation). Stop the backup server and re-execute the operation.

Table 4: XP128/XP1024 error codes (Continued)

Error code	Description
32089	VSC operation cannot be performed. (ShadowImage pair is included). Please split the ShadowImage pair.
32090	VSC operation cannot be performed. (ShadowImage pair is included). Please resynchronize the ShadowImage pair.
32091	VSC operation cannot be performed. (ShadowImage pair is included). Please change the ShadowImage volume to Simplex.
32092	VSC operation cannot be performed. (Maintenance is in process). Please wait for a while and re-execute the operation.
32093	VSC operation cannot be performed. (The function is not supported in the main. The target function is not supported). Please contact the HP Product Support.
32094	I/O exists in the target WWN, or unregistered WWN, or the request is given to the WWN specified to the group. Please check the specified WWN, re-execute the operation after checking if it is registered, releasing from the host group, or stopping the I/O from the host.
32097	Maximum number of Paths through which the Port can be accessed already configured. Please delete a path to add a new add for this port.
32098	With CHA high-speed mode set for the port, multiple change requests cannot be performed.
32099	VSC operation - Initialize cannot be performed as LDEV ID is not set for the Parity Group.
32167	I/O in the Extended Copy Manager operation may be in progress. Please stop the I/Os by Extended Copy Manager.
32997	Failed to obtain external function pointer required in the application. Please reboot the SVP and re-execute the same operation. If the problem persists, please inform the HP Product Support.
32998	Failed to obtain external function pointer required in the application. Please reboot the SVP and re-execute the same operation. If the problem persists, please inform the HP Product Support.
32999	The interface between applications do not match. Please reboot the SVP and re-execute the same operation. If the problem persists, please inform the HP Product Support.
33000	Unexpected error occurred. After rebooting the SVP, if the problem persists, please contact HP Product Support.
33001	Failed to manage the configuration information. After rebooting the SVP, if the problem persists, please contact HP Product Support.
33002	Failed to manage the configuration information. After rebooting the SVP, if the problem persists, please contact HP Product Support.

Table 4: XP128/XP1024 error codes (Continued)

Error code	Description
33003	An error occurred while accessing a file required by the application. Please reboot the SVP and re-execute the same operation. If the problem persists, please contact your HP support representative.
33004	Interface logical error in the application is detected. Or, unregistered error occurs. Please contact HP Product Support.
42002	An error occurred on RMI Server. Please contact HP Product Support.
46033	TSservice (RisMan) stops. Please contact HP Product Support.
48006	Failed to initialize. Please try again. If the problem persists, please contact HP Product Support.
50199	Sequence Error in the internal logic of CV Server. Please raise a bug or report this problem to the HP Product Support.
55094	LUN Security Operation being performed for non-fibre port.
55195	This functionality is not available. License Key for SNMP API needs to be installed. Please contact the HP Product Support.
55196	This functionality is not available. License Key for HPAV is required. Please contact the HP Product Support.
55197	This functionality is not available. License Key for PERFORMANCE MANAGEMENT BASE MONITOR is required. Please contact the HP Product Support.
55198	This functionality is not available. License Key for HP Auto LUN XP is required. Please contact the HP Product Support.
55199	This functionality is not available. License Key for HP APPLICATION POLICY MANAGER is required. Please contact the HP Product Support.
58396	Inconsistent configuration information. Please retry the operation. If the error persists, please contact the HP Product Support.
60999	Failed to initialize the log file for RMI. (Improper environment). Please contact HP Product Support.
61000	Log file formatting error for RMI (Improper environment). Please contact HP Product Support.
61001	Failed to access the environment file for RMI (Improper environment). Please contact HP Product Support.
61002	Error in formatting the authentication file (Improper environment). Please contact HP Product Support.
61003	Error in formatting the list storing file names (Improper environment). Please contact HP Product Support.

Table 4: XP128/XP1024 error codes (Continued)

Error code	Description
61004	An error occurred in RMI Server. If the error persists after retrying, please contact HP Product Support.
63994	Authentication file or data exchange table file does not exist. Please contact the HP Product Support.
63996	Since no data is registered to the authentication file, you cannot log in. Register the authentication data. Please call the HP Product Support.
63998	The array configuration is invalid. Please contact the HP Product Support.
76005	An error occurred in RMI Server. If the error persists after retrying, please contact HP Product Support.
103995	The user ID is already in use. Please try to log in after some time.
1104971	The license for this product will expire in 45 days.
1104972	The license for this product will expire in 30 days.
1104973	The license for this product will expire.
1104974	The license for WEB CONSOLE is not installed.
1104975	The array is equipped with large capacity drives. Please upgrade the license key capacity for the software.
1104976	The software installation status has changed.
1104978	The maximum permissible capacity of software is insufficient.
1105917	Failure while connecting to array because of network error.
1105960	Failure while connecting to array because of network error.
1106950	An error occurred. Please contact HP Product Support.
1107990	A trap was generated.
1108090	A trap was generated.
1108091	An error was detected in the system. Please retry the operation. If the error occurs again, please contact the HP Product Support.
1904811	Please enter the nickname.
1904812	Please enter the product name.
1904813	Please enter the serial number.
1904814	Please enter a numeric value for the serial number.
1904815	Please enter the IP address.
1904816	Please enter numeric values for the IP address.

Table 4: XP128/XP1024 error codes (Continued)

Error code	Description
1904817	Please enter the location name.
1904818	Special characters like \" \\ , ; : * ? < > / cannot be used.
1904819	Multi-byte characters cannot be used.
1904820	Administrative privileges needed.
1904821	The nickname is already registered. Please specify another nickname.
1904822	Nickname cannot be greater than 16 alphanumeric character string.
1904823	Product name cannot be greater than 16 alphanumeric character string.
1904824	Location name cannot be greater than 16 alphanumeric character string.
1904825	Invalid Array Serial Number. It should be less than 65536.
1904920	Failed to compress the trace file.
1905010	An error occurred in the RMI Server. Security file for download not available. Please contact the HP Product Support.
1905020	The number of storage devices exceeds the maximum.
1905811	Failed to open the storage list file. If the error persists, please call the HP Product Support.
1905812	The storage file does not exist. Please contact the HP Product Support.
1905824	Error occurred in authentication. Please contact the HP Product Support.
3055696	WindowsAPI error. Please contact the HP Product Support.
3055717	File open error. Please contact the HP Product Support.
3055718	Failed to access the file. Please contact the HP Product Support.
3056896	SVP is busy. Please contact the HP Product Support.
3056900	SEND error. Please contact the HP Product Support.
3056901	TRAP SEND error. Please contact the HP Product Support.
3056902	Reject error. Please contact the HP Product Support.
3056903	File not found. Please contact the HP Product Support.
3056904	IP address not set. Please contact the HP Product Support.
3056905	IP address specification error. Please contact the HP Product Support.
3104700	The IP address specified is not valid.
3104701	All fields in the IP address are specified as zero. Invalid IP address.

Table 4: XP128/XP1024 error codes (Continued)

Error code	Description
3104730	Maximum number of IP addresses are already listed. The limit is 32. Please delete an IP address in order to enter a new IP address.
3104731	Maximum number of Communities are already listed. The limit is 32. Please delete a Community in order to enter a new Community.
3104740	The specified community name is already in use.
3104741	The specified IP address is already listed with the Array.
4054608	Interface error. Please re-execute the same operation again. If the problem persists, contact the HP Product Support.
4054642	An error occurred at the time of execution of Install/Uninstall operation. If the problem persists, please contact the HP Product Support.
4054665	Invalid product name. Please specify a valid product name.
4054666	Temporary key is already installed.
4054667	The array capacity exceeds that of the license key. Please obtain a new key with adequate capacity.
4054668	A dependency of the product that you are trying to install exists. Please refer the user-guide or FAQ for details. Please install the specified product first.
4054669	The specified product ID is invalid.
4054670	The specified key code is not valid.
4054671	The specified serial number of the array is not valid.
4054672	A dependency of the product that you are trying to uninstall exists. Please refer to the user-guide or FAQ for details. Please uninstall the specified product first.
4054673	A dependency of the product that you are trying to uninstall exists. Please refer to the user-guide or FAQ for details. Please uninstall the specified product first.
4054674	Different DKC type. This product needs another sub-system type.
4054675	The product license cannot be changed. Please contact the HP Product Support.
4054682	Due to the error in other software, this operation cannot be processed. After resolving the error factor, re-execute the operation.
4055096	The trial time limit of the temporary key you had installed has expired. Please order either an emergency key or a permanent Key.
4055097	Insufficient licensed capacity. Please check the request for setting.
4055098	You are attempting to install an emergency key even though the permanent key is already installed.
4055607	Failed to reserve memory. Please contact HP Product Support.

Table 4: XP128/XP1024 error codes (Continued)

Error code	Description
4055617	File open error. Please contact HP Product Support.
4055618	Failed to access the file. Please contact the HP Product Support.
4056112	I/O in the Extended Copy Manager operation may be in progress. Please stop the I/Os and perform the operation again.
4056655	An internal server error occurred. Please contact HP Product Support.
4056656	Syntax error of the license key file. Please contact HP Product Support.
4056657	Boot mode error. Please contact HP Product Support.
4056658	Non-initialized error. Please contact HP Product Support.
4056659	Insufficient reserved buffer. Please contact HP Product Support.
4056696	The product is already installed.
4056796	SVP is busy. Please contact HP Product Support.
4056797	The array capacity exceeds that of the license key installed. Please obtain a new license key of appropriate capacity.
4056798	A dependency of the product that you are trying to install exists. Please refer the user-guide or FAQ for details. Kindly install the specified product first.
4056799	A dependency of the product that you are trying to install exists. Please refer the user-guide or FAQ for details. Kindly install the specified product first.
4056800	The product name is not valid.
4056801	An error occurred. Please contact HP Product Support.
4056802	An error occurred. Please contact HP Product Support.
4057597	Communication error between DKC-SVP. Please contact HP Product Support.
4057598	Communication error between DKC-SVP. Please contact HP Product Support.
4057797	Function BIT OFF. An internal server error. Please contact HP Product Support.
4057798	Hardware is old. An internal server error. Please contact HP Product Support.
4057799	Insufficient hardware. An internal server error. Please contact HP Product Support.
4057800	The array status is not valid. An internal server error. Please contact HP Product Support.
4057801	The software you tried to uninstall is being used.
4057896	Failed to acquire the configuration information. Please contact HP Product Support.
5055496	Windows API error. Please contact HP Product Support.
5055518	Failed to access the file. Please contact the HP Product Support.

Table 4: XP128/XP1024 error codes (Continued)

Error code	Description
5055519	File closing error. If the problem persists after retrying, please contact the HP Product Support.
5055520	File name acquisition error. If the problem persists after retrying, please contact the HP Product Support.
5055531	Invalid parameter when the lower module is called from the high-level. Please contact the HP Product Support.
5055535	Communication error between DKC-SVP. Please call the service personnel.
5055545	Communication error between DKC-SVP. Please contact the HP Product Support.
5055997	SVP is busy. Please wait for a while and retry.
5056001	SVP is busy. Please wait for a while and retry.
5056002	SVP is busy. Please wait for a while and retry.
5056599	An internal server error occurred. Please contact the HP Product Support.
5056605	An internal server error occurred. Please contact the HP Product Support.
5056606	An internal server error occurred. Please contact the HP Product Support.
5056696	An internal server error occurred. Please contact the HP Product Support.
5056697	An internal server error occurred. Please contact the HP Product Support.
5057496	Timeout between DKC-SVP. If the problem persists after a few tries, please contact the HP Product Support.
5057595	The request is rejected in DKC. If the problem persists after a few tries, please contact the HP Product Support.
5057805	Invalid configuration information. If the problem persists after a few trials, please contact HP Product Support.
5057896	Inconsistent configuration information. If the problem persists after a few tries, please contact HP Product Support.
10100013	The specified fibre address is wrong. Please correct the content of the change request and re-issue the operation.
10100055	The specified Host Group is already in use. Please correct the content of the change request and re-issue the operation.
10104000	The product of number of Host Groups and number of LUN IDs specified should be same as the number of LDEV IDs. Please correct the content of the change request and re-issue the operation.
10104030	The maximum number of paths are already set. No paths can be further set for the Host Group.

Table 4: XP128/XP1024 error codes (Continued)

Error code	Description
10104031	The maximum number of LUNs that can be set for a Host Group is 256. No further LUNs can be set for the specified Host Group.
10104032	The maximum number of LUNs that can be set for a Port is 512. No further LUNs can be set for the specified Port.
10104033	The specified number of LDEV IDs exceeds the number of free LUNs available. Please reduce the LDEV IDs and retry the operation.
10104040	The specified LUN is already in use.
10104041	The specified LUN is not a Command Device.
10104042	Please specify a LUN which is already assigned.
10104043	No port is specified.
10104044	At least one path needs to be mapped to the Command Device.
10104045	Number of LDEVs specified are not valid for the LUN.
10104046	The specified LUN does not exist in the system.
10104047	No LUN ID specified for the configuration change request.
10104049	Duplicate Fibre Address is specified. Please change the content of the change request and re-issue the operation.
10104089	The specified LUN is the last path the Command Device. Command Device needs to be released first.
10105499	The specified Host Mode is not valid. Please specify a correct Host Mode.
10106050	An internal server error occurred. Please contact the HP Product Support.
10108140	Please specify a LUN ID which is free.
11099954	The specified WWN is already in use. Please correct the content of the change request and re-issue the operation.
11099955	The specified name is already in use. Please correct the content of the change request and re-issue the operation.
11100000	The name cannot contain special characters. Only alphabets (a-z and A-Y) and digits (0-9) are allowed.
11103890	The WWN should contain hex digits (0-9 and A-F) and should be of 16 character string-length.
11103891	The name cannot contain special characters. Only alphabets (a-z and A-Y) and digits (0-9) are allowed.
11103910	The group name can be maximum of 8 characters.
11103911	The name can be maximum of 8 characters.

Table 4: XP128/XP1024 error codes (Continued)

Error code	Description
11103912	Each area of WWN should be of 8 characters.
11103930	The maximum number of Host Groups for the specified Port are already registered.
11103931	The maximum number of WWNs are already registered. No further WWNs can be added. Please delete some WWNs to add more WWNs.
11103932	The maximum number of WWNs that can be configured is 255. No further WWNs can be added.
11103933	The maximum number of WWN groups is 127. No further WWN groups can be added.
11103934	The maximum number of LUN groups is 128. No further LUN Groups can be added.
11103942	The specified WWN already exists.
11103943	The specified name already exists.
11103944	The security switch of the specified Port is OFF. Please turn the security to ON for performing the operation.
11103947	The WWN Group already is already configured with the same LUN Group.
11103948	The WWN is already configured with the same LUN Group.
11103952	The specified WWN already exist in the Port.
11103953	The specified WWN is already mapped to the LUN.
11103954	The specified WWN Group already contains the LUN.
11103955	The specified name is already registered for the particular Port.
11105950	An internal server error occurred. Please contact the HP Product Support.
20103020	No LUSE volumes available.
20103021	You cannot delete TOP LDEV in a LUSE. Please select a non-TOP LDEV in the LUSE.
20103022	Specified TOP LDEV cannot be used for forming a LUSE. There are no LDEVs available for expanding LDEVs.
20103023	Specified TOP LDEV cannot be used for forming a LUSE. There are no LDEVs available for expanding LDEVs.
51046897	Communication problem between DKCs and SVP. If the problem persists after a few trials, please contact the HP Product Support.
51046910	Communication problem between DKC and SVP. If the problem persists after a few trials, please contact the HP Product Support.
51046928	Monitoring data is being edited. Please wait for a while.

Table 4: XP128/XP1024 error codes (Continued)

Error code	Description
51047040	Abnormal transmission. Please Re-execute the same operation. If the problem persists after a few trials, please contact the HP Product Support.
51049905	Sequence error. Please re-execute the same operation. If the problem persists after a few trials, please contact the HP Product Support.
51049908	Interface error. Interface error of the high-error function may occur. Please check the entered parameter (Please check the extent/format etc.).
51049994	Invalid function code. Function code when the high-level function is called is invalid. Please check if the function code is correct.
51050895	Failed to create thread. If the problem persists after a few trials, please contact the HP Product Support.
51050907	Failed to reserve memory. If the problem persists after a few trials, please contact the HP Product Support.
51050917	File open error. Please contact the HP Product Support.
51050918	Failed to access the statistics information file or plan file. If the problem persists after a few trials, please contact the HP Product Support.
51052006	Parameter error. Please contact the HP Product Support.
51052323	Invalid product name check. If the problem persists after a few trials, please contact the HP Product Support.
51052897	Communication problem between DKC and SVP. If the problem persists after a few trials, please contact the HP Product Support.
51053811	MP failure occurs. If the problem persists after a few trials, please contact the HP Product Support.
51053813	New maintenance call NG. If the problem persists after a few trials, please contact the HP Product Support.
51053814	The target package does not exist. If the problem persists after a few trials, please contact the HP Product Support.
52045871	The HDEV specified as the reserve volume is being used as a secondary HDEV of BC. Please check the status of the specified volume.
52045872	The HDEV specified as the reserve volume is the reserve volume of BC. Please check the status of the specified volume.
52045873	The HDEV specified cannot be configured as the Reserve volume because the HDEV is part of LUSE. Please check the specification.
52045874	Cache LUN is set to the HDEV specified as the Reserve volume. Release the Cache LUN setting.

Table 4: XP128/XP1024 error codes (Continued)

Error code	Description
52045875	Reserve volume cannot be used. If the problem persists after a few trials, please contact the HP Product Support.
52045876	Reserve volume is the command device. Release the command device, or select other volume.
52045877	Reserve volume unmounted. If the problem persists after a few trials, please contact the HP Product Support.
52045878	The HDEV specified as the reserve volume is already set. If the problem persists after a few trials, please contact the HP Product Support.
52045879	No reserve volume can be assigned. Set the reserve volume, and re-execute the operation.
52045880	The HDEV specified as the reserve volume is used in the hierarchical control. If the problem persists after a few trials, please contact the HP Product Support.
52045881	The RAID level of the HDEV specified as the reserve volume is not supported. Please check the microprogram version and contact the HP Product Support.
52045889	The HDEV specified as the reserve volume is not the reserve volume of the hierarchical control. If the problem persists after a few trials, please contact the HP Product Support.
52045890	No HDEV in the reserve volumes can be assigned as the secondary HDEV. If the problem persists after a few trials, please contact the HP Product Support.
52045891	Since the path group is set, the request is rejected. If the problem persists after a few trials, please contact the HP Product Support.
52045904	The emulation type of the specified reserve volume is not supported. If the problem persists after a few trials, please contact the HP Product Support.
52045912	The volume specified as the source is the primary volume of the concurrent copy. If the problem persists after a few trials, please contact the HP Product Support.
52045913	The volume specified as the target is the primary volume of the concurrent copy. If the problem persists after a few trials, please contact the HP Product Support.
52045914	The volume specified as the reserve is the primary volume of the concurrent copy. If the problem persists after a few trials, please contact the HP Product Support.
52045915	The specified source volume is the primary volume of XRC. If the problem persists after a few trials, please contact the HP Product Support.
52045916	The specified target volume is the primary volume of XRC. If the problem persists after a few trials, please contact the HP Product Support.
52045917	The volume specified as the reserve is the primary volume of XRC. If the problem persists after a few trials, please contact the HP Product Support.

Table 4: XP128/XP1024 error codes (Continued)

Error code	Description
52046002	Since the volume characteristics are different, the pair cannot be set. If the problem persists after a few trials, please contact the HP Product Support.
52046003	The emulation type of the specified source volume is not supported. If the problem persists after a few trials, please contact the HP Product Support.
52046004	The emulation type of the specified target volume is not supported. If the problem persists after a few trials, please contact the HP Product Support.
52046005	The upper limit value is exceeded (Source, Target, Reserve). Please check the number of the volumes which can be set at a time.
52046006	The multiplicity of the copy job is exceeded. If the problem persists after a few trials, please contact the HP Product Support.
52046007	The source volume is unmounted. If the problem persists after a few trials, please contact the HP Product Support.
52046008	The source volume cannot be used. If the problem persists after a few trials, please contact the HP Product Support.
52046009	The source volume is formatting. If the problem persists after a few trials, please contact the HP Product Support.
52046010	The source volume is the command device. If the problem persists after a few trials, please contact the HP Product Support.
52046011	The target volume is not mounted. If the problem persists after a few trials, please contact the HP Product Support.
52046012	The target volume cannot be used. If the problem persists after a few trials, please contact the HP Product Support.
52046013	The target volume is being formatted. If the problem persists after a few trials, please contact the HP Product Support.
52046014	The target volume is the command device. If the problem persists after a few trials, please contact the HP Product Support.
52046015	The volume specified as the target is not the target volume of the hierarchical control. If the problem persists after a few trials, please contact the HP Product Support.
52046016	The volume specified as the source is the target volume of the hierarchical control. If the problem persists after a few trials, please contact the HP Product Support.
52046017	Pair cannot be set to the specified source volume. If the problem persists after a few trials, please contact the HP Product Support.
52046018	The specified target volume is used as the target volume of the hierarchical control. If the problem persists after a few trials, please contact the HP Product Support.
52046019	The specified target volume is the source volume of the hierarchical control. If the problem persists after a few trials, please contact the HP Product Support.

Table 4: XP128/XP1024 error codes (Continued)

Error code	Description
52046020	The specified source volume and the target volume are the same volume. If the problem persists after a few trials, please contact the HP Product Support.
52046021	The volume specified as the source volume is the primary volume of CA. If the problem persists after a few trials, please contact the HP Product Support.
52046022	The volume specified as the source volume is the secondary volume of CA. If the problem persists after a few trials, please contact the HP Product Support.
52046023	The RAID level of the specified source volume is not supported. If the problem persists after a few trials, please contact the HP Product Support.
52046024	The specified source volume is the primary volume of BC. If the problem persists after a few trials, please contact the HP Product Support.
52046025	The specified source volume is the secondary volume of BC. If the problem persists after a few trials, please contact the HP Product Support.
52046026	The specified source volume is the primary volume of Data Migration. If the problem persists after a few trials, please contact the HP Product Support.
52046027	The specified target volume is the Root volume of the BC. If the problem persists after a few trials, please contact the HP Product Support.
52046028	The specified target volume is the Node volume of BC. If the problem persists after a few trials, please contact the HP Product Support.
52046029	The specified target volume is the primary volume of CA. If the problem persists after a few trials, please contact the HP Product Support.
52046030	The specified target volume is the secondary volume of CA. If the problem persists after a few trials, please contact the HP Product Support.
52046031	The RAID level of the specified target volume is not supported. If the problem persists after a few trials, please contact the HP Product Support.
52046032	The specified target volume is the primary volume of BC. If the problem persists after a few trials, please contact the HP Product Support.
52046033	The specified target volume is set as the S-VOL of BC. If the problem persists after a few trials, please contact the HP Product Support.
52046034	The specified target volume is the primary volume of Data Migration. If the problem persists after a few trials, please contact the HP Product Support.
52046035	The specified source volume is the reserve volume of BC. If the problem persists after a few trials, please contact the HP Product Support.
52046036	Cache LUN is set to the specified source volume. If the problem persists after a few trials, please contact the HP Product Support.
52046037	Cache LUN is set to the specified target volume. If the problem persists after a few trials, please contact the HP Product Support.

Table 4: XP128/XP1024 error codes (Continued)

Error code	Description
52046038	The specified volume is not the source volume. If the problem persists after a few trials, please contact the HP Product Support.
52046041	The number of the valid lists specified is invalid. If the problem persists after a few trials, please contact the HP Product Support.
52046042	The specified volume is already the source volume. If the problem persists after a few trials, please contact the HP Product Support.
52046401	License for using the Auto LUN function is not installed or has expired. Please install the required license.
52046798	Confirm that the maintenance operation is not performed at SVP (SVP in modify mode). Please wait for a while and re-execute.
52046799	An internal error occurred. If the problem persists after a few trials, please contact the HP Product Support.
52046806	Since the status is not Simplex internally, the transfer instruction cannot be accepted. Please wait for a while and re-execute the same operation. If the problem persists after a few trials, please contact the HP Product Support.
52046819	Processor failure detected. Please contact the HP Product Support.
52046820	Cache failure detected. Please contact the HP Product Support.
52046821	Shared memory failure detected. Please contact the HP Product Support.
52046822	Power failure detected. Please contact the HP Product Support.
52046823	PS OFF is in process. Please contact the HP Product Support.
52046824	Data transfer failure (CHA). Please contact the HP Product Support.
52046825	Data transfer failure (DKA). Please contact the HP Product Support.
52046828	The statistic file is being updated (Being automatically obtained). Please wait for a while.
52047797	Invalid command code. Invalid interface between functions inside the agent is detected. Please contact the HP Product Support.
52047798	Unexpected error occurs. Please reboot the SVP and perform the operation. If the problem persists, please contact the HP Product Support.
52049808	Interface error. Interface error of the high-error function may occur. Please check the entered parameter (Please check the extent/format etc.).
52049894	Invalid function code. Function code when the high-level function is called is invalid. Please check if the function code is correct.
52050299	The specified volume is used by Data Migration. Please check the request for setting and re-execute the operation.

Table 4: XP128/XP1024 error codes (Continued)

Error code	Description
52050300	The specified volume is used by CA. Please check the request for setting and re-execute the operation.
52050301	The volume specified as the source is the primary volume of CA, and it is used as a pair whose status is other than Pair Suspended. Please check the request for setting and re-execute the operation.
52050302	The specified target volume is not the target volume of the hierarchical control. Please check the request for setting and re-execute the operation.
52050305	Auto transfer plan of Auto LUN is started doubly. Please wait for a while and re-execute the operation.
52050795	Failed to create thread in initial booting. Reboot a few times. If the problem persists, please contact the HP Product Support.
52050796	WindowsAPI error. If the problem persists after retrying, please contact the HP Product Support.
52050807	Failed to reserve memory. If the problem persists after retrying, please contact the HP Product Support.
52050817	Failed to open the statistics information file or plan file. If the problem persists after retrying, please contact the HP Product Support.
52050818	Failed to access the statistics information file or plan file. If the problem persists after retrying, please contact the HP Product Support.
52050831	Invalid parameter when the lower module is called from the high-level. Please contact the HP Product Support.
52051296	Failed to acquire monitor data. (No statistics information). Please turn on the monitor switch and accumulate the data.
52051297	DKC Busy Please wait for a while and retry. If the problem persists after retrying, please contact the HP Product Support.
52051305	Lock time-out detected. Please wait for a while and retry.
52051306	Command issuance rejected. Please check the pair status.
52051307	Command issuance treated as NOP. Please check the pair status.
52052195	Auto LUN parameter file access error. Execute the same operation a few times. If the problem persists after retrying, please contact the HP Product Support.
52052196	Auto LUN plan file access error. Execute the same operation a few times. If the problem persists after retrying, please contact the HP Product Support.
52052197	Auto LUN fixed PG file access error. Execute the same operation a few times. If the problem persists after retrying, please contact the HP Product Support.

Table 4: XP128/XP1024 error codes (Continued)

Error code	Description
52052198	Auto LUN class file access error. Execute the same operation a few times. If the problem persists after retrying, please contact the HP Product Support.
52052199	Auto LUN PG file access error. Execute the same operation a few times. If the problem persists after retrying, please contact the HP Product Support.
52052200	Auto LUN LDEV file access error. Execute the same operation a few times. If the problem persists after retrying, please contact the HP Product Support.
52052201	Auto LUN configuration file access error. Execute the same operation a few times. If the problem persists after retrying, please contact the HP Product Support.
52052202	Auto LUN reserve information acquiring error. Execute the same operation a few times. If the problem persists after retrying, please contact the HP Product Support.
52052203	Auto LUN usage rate acquiring error. Execute the same operation a few times. If the problem persists after retrying, please contact the HP Product Support.
52052204	Auto LUN plan file output error. Execute the same operation a few times. If the problem persists after retrying, please contact the HP Product Support.
52052205	Auto LUN PG file output error. Execute the same operation a few times. If the problem persists after retrying, please contact the HP Product Support.
52052206	Auto LUN LDEV file output error. Execute the same operation a few times. If the problem persists after retrying, please contact the HP Product Support.
52052207	Invalid Auto LUN parameter file. Execute the same operation a few times. If the problem persists after retrying, please contact the HP Product Support.
52052208	Invalid Auto LUN plan file. Execute the same operation a few times. If the problem persists after retrying, please contact the HP Product Support.
52052209	Invalid Auto LUN fixed PG file. Execute the same operation a few times. If the problem persists after retrying, please contact the HP Product Support.
52052210	Invalid Auto LUN class file. Execute the same operation a few times. If the problem persists after retrying, please contact the HP Product Support.
52052211	Invalid Auto LUN PG file. Execute the same operation a few times. If the problem persists after retrying, please contact the HP Product Support.
52052212	Invalid Auto LUN LDEV file. Execute the same operation a few times. If the problem persists after retrying, please contact the HP Product Support.
52052213	Invalid Auto LUN configuration file. Execute the same operation a few times. If the problem persists after retrying, please contact the HP Product Support.
52052214	Invalid Auto LUN reserve information. Execute the same operation a few times. If the problem persists after retrying, please contact the HP Product Support.
52052215	Invalid Auto LUN internal information. Execute the same operation a few times. If the problem persists after retrying, please contact the HP Product Support.

Table 4: XP128/XP1024 error codes (Continued)

Error code	Description
52052216	Failed to create Auto LUN plan. Execute the same operation a few times. If the problem persists after retrying, please contact the HP Product Support.
52052217	Auto LUN memory error. Execute the same operation a few times. If the problem persists after retrying, please contact the HP Product Support.
52052218	Auto LUN internal error. Execute the same operation a few times. If the problem persists after retrying, please contact the HP Product Support.
52052219	Auto LUN plan file access error. (Delete) Execute the same operation a few times. If the problem persists after retrying, please contact the HP Product Support.
52052221	Auto LUN plan does not exist. Execute the same operation a few times. If the problem persists after retrying, please contact the HP Product Support.
52052796	Timeout between DKC-SVP. If the problem persists after few retries, please contact the HP Product Support.
52052895	The request is rejected in DKC. If the problem persists after few retries, please contact the HP Product Support.
52052897	The request cannot be received from SVP to DKC. If the problem persists after few retries, please contact the HP Product Support.
53045759	The specified WWN ID is already registered in the array.
53045953	The target port is unmounted. Correct the specified contents, and re-issue the request for configuration change.
53046697	The timer setting is failed. Communication problem between DKC and SVP. If the problem persists after few retries, please contact the HP Product Support.
53046710	Connection for communication between DKCs (SVPs) is failed. Communication error occurs. If the problem persists after few retries, please contact the HP Product Support.
53046728	Monitoring data is being edited. Please wait for a while.
53047698	Unexpected error occurs. After rebooting the SVP, re-execute the same operation. If the problem persists, please contact the HP Product Support.
53049695	Invalid character entered for WWN. Specify 0 to 9, A to F, -, space.
53049705	Sequence error. (Table inconsistency in main). Re-execute the same operation. If the problem persists after few retries, please contact the HP Product Support.
53049708	Interface error (Invalid date, time, relation between start and end, the number of parts divided equally, number, PORTID, host group, LUN, PG, CU, and LDEV). Re-execute the same operation. If the problem persists after few retries, please contact the HP Product Support.
53049713	Invalid the upper limit value/threshold. Enter the correct value (0-65535).

Table 4: XP128/XP1024 error codes (Continued)

Error code	Description
53049794	Invalid function code. (Inconsistent versions in the server). Please call the service personnel.
53049796	The specified WWN is not configured. Please check the specified content and re-execute the operation.
53049797	The specified PPC group is not configured. Please check the specified content and re-execute the operation.
53049799	The specified PPC group is already registered in the array. Please check the specified content and re-execute the operation.
53049800	The WWN which is the target of monitoring is not mounted in the specified port. Please check the specified content and re-execute the operation.
53049801	The target WWN is already configured to the specified port as the monitoring target. Please check the specified content and re-execute the operation.
53049802	The PPCWWN nickname is already configured. Please check the specified content and re-execute the operation.
53049803	The PPC group nickname is already configured. Please check the specified content and re-execute the operation.
53049804	The maximum number of WWNs are already configured for the specified port. Please check the specified content and re-execute the operation.
53049805	The upper limit value of the WWN which can be registered as the target of monitoring is exceeded. Please check the specified content and re-execute the operation.
53049806	The upper limit value of the WWN which can be registered to the PPC group is exceeded. Please check the specified content and re-execute the operation.
53049807	The operation mode for the WWN belonging to the group cannot be changed. Please check the specified content and re-execute the operation.
53049808	WWNs which already belong to groups cannot be grouped. Please check the specified content and re-execute the operation.
53049809	WWNs with different operation modes cannot be grouped. Please check the specified content and re-execute the operation.
53050695	Failed to initialize (To create thread). If the problem persists after few retries, please contact the HP Product Support.
53050707	Failed to initialize (To reserve memory). If the problem persists after few retries, please contact the HP Product Support.
53050717	Failed to open the file. If the problem persists after few retries, please contact the HP Product Support.

Table 4: XP128/XP1024 error codes (Continued)

Error code	Description
53050718	Failed to access the file. If the problem persists after few retries, please contact the HP Product Support.
53050731	The specified parameter is invalid (Port ID, Priority operation mode, PPC control mode, threshold, upper limit value, update flag, WWN, PPC group ID, the number of settings, usage flag, type of the PPC control), the nickname or combination of the setting parameters is invalid, or WWN nickname is inconsistent. If the problem persists after few retries, please contact the HP Product Support.
53050745	Exclusive check error. If the problem persists after few retries, please contact the HP Product Support.
53050746	Failed to convert Big-Little. If the problem persists after few retries, please contact the HP Product Support.
53051806	Parameter error between PPC and new communication. Please contact the HP Product Support.
53052123	The PP checked in SVP is determined as not installed in DKC. If the problem persists after few retries, please contact the HP Product Support.
53052697	Communication failure occurs. If the problem persists after few retries, please contact the HP Product Support.
53053613	New maintenance call NG. If the problem persists after few retries, please contact the HP Product Support.
53053614	The target package does not exist. If the problem persists after few retries, please contact the HP Product Support.
53069795	The specified PPC group is not registered. Please check the request for setting and re-execute the operation.
53069821	You tried to add the PPC groups which exceeds the maximum number (512). Please check the request for setting and re-execute the operation.
60070015	Failed to open the file. If the problem persists after few retries, please contact the HP Product Support.
80044998	Unexpected error occurs. After rebooting the SVP, re-execute the same operation. If the problem persists after few retries, please contact the HP Product Support.
80047094	Invalid function code. Function code when the high-level function is called is invalid. Please check if the function code is correct.
80049996	Timeout between DKC-SVP. If the problem persists after few retries, please contact the HP Product Support.
80050095	The request is rejected in DKC. If the problem persists after few retries, please contact the HP Product Support.
91046406	Program Product required in this function is not installed. Install the Program Product required in this function and re-execute the request.

Table 4: XP128/XP1024 error codes (Continued)

Error code	Description
91046907	Failed to reserve memory for requesting. Reboot the SVP PC and re-execute the request. If the problem persists, call the support center. (Acquire DUMP)
91046918	Failed to operate the file for executing the request. Reboot the SVP PC and re-execute the request. If the problem persists, call the support center. (Acquire DUMP)
91048205	Unexpected error code is detected internally. Please call the support center. (Acquire DUMP.)
91048897	Communication error occurs during setting. If the problem persists after a few tries, call the service personnel.
91066905	Failed to reserve memory for requesting. Reboot the SVP PC and re-execute the request. If the problem persists, call the support center. (Acquire DUMP)
95045525	The request for setting is received, but data to be processed does not exist. Please check the request for setting, and re-issue the request for setting.
95045536	The number of requests for settings is limited to 3072. Reduce the number of the requests for settings and re-execute the operation.
95046006	License required for this operation is not installed. Please install the license required for this operation and re-execute the request.
95046507	Failed to reserve memory for requesting. Reboot the SVP PC and re-execute the request. If the problem persists after few retries, please contact the HP Product Support.
95046518	Failed to operate the file for executing the request. Reboot the SVP PC and re-execute the request. If the problem persists after few retries, please contact the HP Product Support.
95047606	For the requested content, the unexpected parameter is set. Please check the setting. If the problem persists after few retries, please contact the HP Product Support.
95047805	Unexpected error code is detected internally. Please contact the HP Product Support.
95047925	The specified port number cannot be used in this function. Please check the specified content and retry.
95047926	The Initiator Ports under the high-speed PCBs needs to be set to the Port Group.
95047927	The Initiator Ports under the high-speed PCBs are set to the Port Group, but the values of HOST Group#0 and Timeout are not set to 100 (Default value).
95048497	Communication error occurs during setting. If the problem persists after few retries, please contact the HP Product Support.
95066505	Failed to reserve memory for requesting. Reboot the SVP PC and re-execute the request. If the problem persists after few retries, please contact the HP Product Support.

A

- add device [39](#)
- add ipaddress [40](#)
- add lun_to_lun_group [154](#)
- add security_to_lun [155](#)
- add security_to_lun_group [156](#)
- add wwn [157](#)
- add wwn_to_wwn_group [158](#)
- adding disk arrays to be managed [23](#)
- audience [10](#)
- authorized reseller, HP [13](#)

B

- batch file setup [226](#)
- batch mode [17](#)
- batch processing [225](#)
- bypassing the login window [19](#)

C

- category option [234](#)
- cmd option [234](#)
- command syntax [19](#)
- configuration validation [243](#)
- connect [29](#)
- connecting to a disk array [24](#)
- conventions
 - document [11](#)
 - text symbols [11](#)
- create custom_ldevs [106](#)
- create custom_volumes [196](#)
- create device [41](#)
- create host_group [73](#)

- create ipaddress [42](#)
- create lun [75](#), [159](#)
- create lun_group [160](#)
- create luse [108](#)
- create user [60](#)
- create wwn [78](#)
- create wwn_group [161](#)

D

- delete device [43](#)
- delete host_group [80](#)
- delete ipaddress [44](#)
- delete ldevs [110](#)
- delete lun [81](#), [162](#)
- delete lun_from_lun_group [163](#)
- delete lun_group [164](#)
- delete lun_security [165](#)
- delete luse [112](#)
- delete security_from_lun [166](#)
- delete security_from_lun_group [167](#)
- delete vsc_volumes [197](#)
- delete wwn [83](#), [168](#)
- delete wwn_from_wwn_group [169](#)
- delete wwn_group [170](#)
- disconnect [30](#)
- disconnecting from a disk array [25](#)
- discovering disk arrays [23](#)
- document
 - conventions [11](#)
 - prerequisites [10](#)
 - related documentation [10](#)

E

ending a CLI session [25](#)
error codes [249](#)
error messages [243](#), [244](#)
execute [34](#)
execute command [229](#)
exit [35](#)
expand lun [198](#)

F

-f option [227](#)

G

get refresh_status [45](#)
getting help [13](#)
getting started [15](#)

H

help or ? [36](#)
help, obtaining [13](#)
HP
 authorized reseller [13](#)
 storage website [13](#)
 technical support [13](#)

I

initialize vdev [113](#)
install license_key [61](#), [67](#)
installation [16](#)
interactive mode [17](#)

K

kill session [31](#)

L

list acp_status [133](#), [208](#)
list array_config [46](#)
list array_status [49](#)
list cha_status [135](#), [210](#)
list chip_status [135](#), [210](#)

list chp_status [137](#), [212](#)
list cm_status [138](#), [213](#)
list cmd_device [171](#)
list count_for_volume_initialize [172](#)
list csw_status [139](#), [214](#)
list device [52](#)
list device_history [53](#)
list dka_status [133](#), [208](#)
list dkc_status [140](#), [215](#)
list dkp_status [141](#), [216](#)
list dku_status [142](#), [217](#)
list drr_status [143](#), [218](#)
list free_ldev [173](#)
list ipaddress [54](#)
list ldev [115](#), [200](#)
list ldev_size_info [201](#)
list licensekey_info [68](#)
list lun [84](#), [174](#)
list lun_group [175](#)
list lun_group_security [176](#)
list lun_security [177](#)
list luse [121](#), [202](#)
list parity_group [123](#), [203](#)
list pg_free_space_info [178](#)
list pg_status [144](#), [219](#)
list pg_volume_info [179](#)
list port [87](#), [180](#)
list security_switch [181](#)
list session [32](#)
list sm_status [147](#), [222](#)
list traps [148](#), [223](#)
list unused_ldev_ids [204](#)
list usable_cus [128](#), [205](#)
list users [62](#)
list vsc [129](#)
list wwn [92](#), [182](#)
list wwn_group [183](#)
logging in [18](#)
login window [18](#)
 bypassing [19](#)

M

- manage [55](#)
- modes of execution [17](#)
- modify attributes [63](#)
- modify cmd_device [95](#), [184](#)
- modify device [56](#)
- modify fibre_address [97](#), [185](#)
- modify fibre_topology [98](#), [186](#)
- modify host_group [99](#)
- modify host_mode [100](#), [187](#)
- modify lun_group_nickname [189](#)
- modify lun_security [102](#)
- modify password [64](#)
- modify security_switch [190](#)
- modify wwn [103](#), [191](#)
- modify wwn_group_nickname [192](#)
- modify wwn_nickname [193](#)
- multiple set operations [239](#)

O

- o option [231](#)

P

- prerequisites [10](#)

R

- redirecting output [231](#), [234](#)
- related documentation [10](#)
- remove wwn_group [194](#)

- running the CLI [17](#)

S

- symbols in text [11](#)
- syntax [19](#)
- syntax validation [243](#)

T

- technical support, HP [13](#)
- text symbols [11](#)

U

- uninstall license_key [70](#)
- unmanage [58](#)
- update [37](#)

V

- validation [243](#)
- volume initialize [206](#)

W

- websites
 - HP storage [13](#)

X

- XP128/XP1024 commands [71](#)
- XP48/XP256/XP512 commands [151](#)

Figures

1	Login window	18
---	--------------------	----

Tables

1	Document Conventions	11
2	Error messages	244
3	XP48/XP256/XP512 error codes	249
4	XP128/XP1024 error codes	262

